NEW EQUIPMENT DIGEST

A Penton Publication

August, 1961

Volume 26 — Number 8

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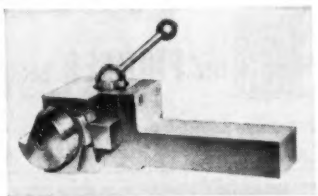
CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips—Pages 16 and 80

EQUIPMENT MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

THREADING TOOL
usable on any lead screw lathe

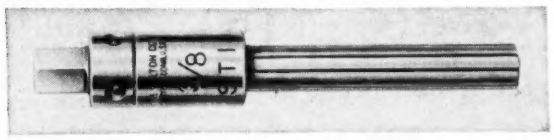


Designed for short-run threading efficiency, two sizes of Vers-O-Tool single chaser tools cut 11-pitch and finer threads and coarse threads such as Acme, square, and buttress forms. These Namco tools can be used on any lathe equipped with a lead screw, and they will cut taper threads with any standard taper attachment. Tool backs off automatically at the end of the cutting stroke. It prohibits any return stroke at cutting depth, thus eliminating danger of damaged threads. • **National Acme Co.**, Threading Tools Div., 170 E. 131st., Cleveland 8, Ohio.

▲ For more details circle **NED-1 H1** on enclosed inquiry slip ▲

TAP EXTRACTORS
fit helical coil insert taps

Taps broken in cutting helical coil wire screw thread inserts are removed with series of STI tap extractors. They fit all standard STI tap sizes from No. 4 through



5/8 in. and are offered in two, three, and four-flute styles. Other sizes can be quoted upon receipt of sample tap. Broken taps are firmly gripped and backed out quickly without damage to the threads or work. • **Walton Co.**, Box 5, Elmwood Branch, Hartford 10, Conn.

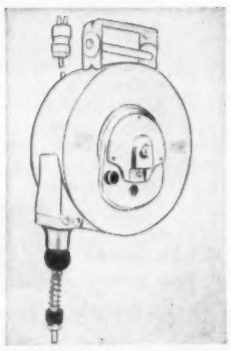
▲ For more details circle **NED-2 H1** on enclosed inquiry slip ▲

NITRIDING PROCESS
prevents galling of valve surfaces

Using an additive that provides an accelerator to increase the availability of nitrogen to steel, the Nitrohard liquid salt bath nitriding process prevents the galling of metal surfaces. It is employed for treating working parts of W-K-M stainless steel valves and stems, steel seats of standard valves, and gate segments. Advantages of the process, developed in co-operation with E. F. Houghton Co., include minimized drag-out loss due to low viscosity of molten salt, improved heat distribution throughout the bath, and easy cleaning of parts after processing. • **ACF Industries, Inc.**, W-K-M Div., Box 2117, Houston 1, Tex.

▲ For more details circle **NED-3 H1** on enclosed inquiry slip ▲

ELECTRIC CORD REELS
plug into outlet after mounting



Out-of-the-way storage for drop cords is provided by two industrial duty electric cord reels. No. 925 is equipped with 20 or 25 ft of cord and No. 945 has 35 or 45 ft of cord. After simple mounting, the lead-in cable is plugged into the nearest outlet. Lowest priced unit is $36.40 including cord. • **Daniel Woodhead Co.**, 15 N. Jefferson St., Chicago 6, Ill.

▲ For more details circle **NED-4 H1** on enclosed inquiry slip ▲

INDUSTRIAL STEEL BUILDINGS
variety of types and sizes built from off-the-shelf components

Pre-engineered sections that can be fitted together to form a wide variety of types and sizes are featured by Trusspan industrial steel buildings. Assembled from

off-the-shelf components, buildings are delivered to the site as a complete package with siding, roofing, swing or slide doors, windows, and hardware.

Using open web trusses, purlins, and girts, any width in a multiple-span building is possible with a single ridge line by using interior columns and single pitched trusses. They also afford space and support for pipes, conduit, and duct work, and the bottom chord of the trusses allows attaching a ceiling, if desired.

Building heights are 12, 14, and 16 ft, whereas widths run from 30 to 80 ft, in 10-ft increments. Sidewalls can be steel, glass, brick, or stone. Steel roofing and siding standards are 26-gage galvanized roll formed ribbed sheets 24 in. wide and in continuous lengths. • **Republic Steel Corp.**, 1315 Albert St., Youngstown 1, Ohio.

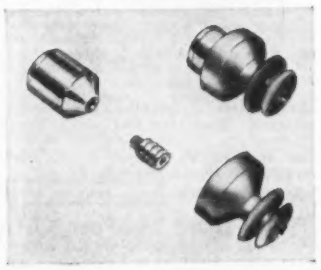
▲ For more details circle **NED-5 H1** on enclosed inquiry slip ▲

CONTACT CLEANER-LUBRICANT
for tuners, controls, switches

Dirt and gummy deposits are removed from electrical contacts by Krylon Cleaner-Lubricant. It also leaves a nondrying film which lubricates the contact surfaces and assures lasting protection from corrosion and oxidation. Liquid can be applied from the self-spray container or directed to hard-to-reach areas with a plastic hose extender on the 16 or 6-oz aerosol cans. They list for $1.95 and 98 cents, respectively. • **Krylon, Inc.**, Ford & Washington Streets, Norristown, Pa.

▲ For more details circle **NED-6 H1** on enclosed inquiry slip ▲

HEARING PROTECTOR
redesigned for better ear comfort



Tiny ear-insert device called the Sonic Ear-Valv acts as a mechanical sound pressure control, removing the harm from noise without plugging the ears. The part entering the ear has been shortened and redesigned for greater comfort with all ear openings, regardless of size or shape. Wanted sounds pass through practically undisturbed. • **Sigma Engineering Co.**, 1608 Hillhurst Ave., Los Angeles 27, Calif.

▲ For more details circle **NED-7 H1** on enclosed inquiry slip ▲

2-TON CAPACITY CRANES
have two-speed hydraulic system

Flexibility in reaching under or over obstructions or equipment to reach and position loads is provided by HP-2 Series 2-ton capacity cranes. Multipurpose floor, truck, and pedestal mounted units have a Toggoil hand pump and a two-speed hydraulic system that affords speed for light load handling and power for heavy lifting. The one man operated cranes will pass through an 82-in. doorway, and reach up to 10 ft, or to 12 ft 3 in. with an extension boom. Wide-spaced swivel casters provide stability and a waist-high towing handle facilitates pulling to the job. Optional equipment includes Power-Pak, swivel hook, rubber or plastic wheels, Stack-Or-Lift, floor lock, barrel grip, and transmission attachment. • **Ruger Equipment Inc.**, 615 W. Fourth St., Uhrichsville, Ohio.

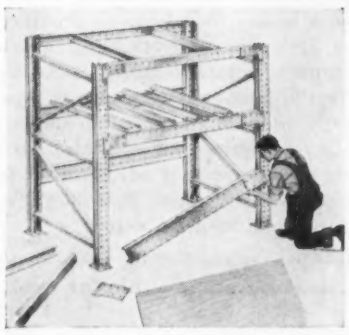
▲ For more details circle **NED-8 H1** on enclosed inquiry slip ▲

OFFICE PHOTOCOPIER
handles copy 9 in. wide, any length

Copies made by this Model 103 office photocopying machine are permanent and will not fade from light, heat, or age. The low-silhouette unit makes black on white reproductions up to 9 in. wide by any length of anything drawn, printed, duplicated, typed, or written. Rollers and paper conveying system are driven by 115-v 60-cycle constant speed motor through nylon gears and bearings. Light source is one 14-w fluorescent tube. Unit has a corrosion-resistant steel base, removable plastic cover, and rubber feet. A dust cover is provided. • **A. B. Dick Co.**, 5700 W. Touhy Ave., Chicago 48, Ill.

▲ For more details circle **NED-9 H1** on enclosed inquiry slip ▲

STORAGE RACKS
packaged unit is quickly assembled

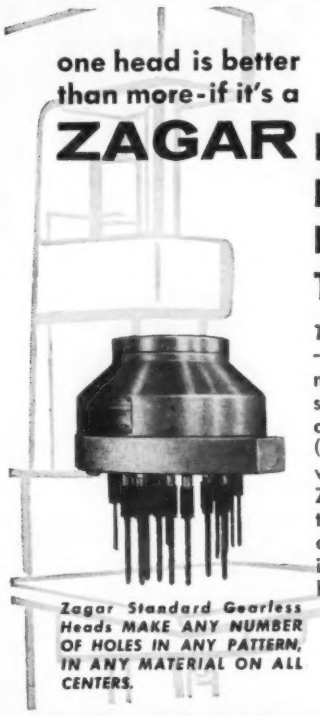


Fabricated of galvanized steel channel, the Series 4000 Bild-A-Rack has an upright capacity of 10,600 lb for 144 in. of height. Beam capacities are up to 4200 lb for each pair of shelves with a span of 106 in. Supplied as a packaged unit for rapid assembly, the rack requires no special tools, extra equipment, or cutting to assemble. It can be used as single or multiple units, with one or more shelves, or as a pallet rack. They have a 1.65 safety factor. • **Paltier Corp.**, 1701 Kentucky St., Michigan City, Ind.

▲ For more details circle **NED-10 H1** on enclosed inquiry slip ▲

one head is better than more-if it's a

ZAGAR Head for Drilling, Reaming and Tapping



1 to 1000 holes in one pass—as close as twice drill diameter. Costs decrease as spindles are added. *And,* a variety of hole patterns (or parts) can be produced with one *fixed center head.* Zagar units are adaptable to standard drill presses or are built as a complete installation. Send in your hole problem to Zagar.

Zagar Standard Gearless Heads MAKE ANY NUMBER OF HOLES IN ANY PATTERN, IN ANY MATERIAL ON ALL CENTERS.

Write for Manual "N-8" for engineering data.

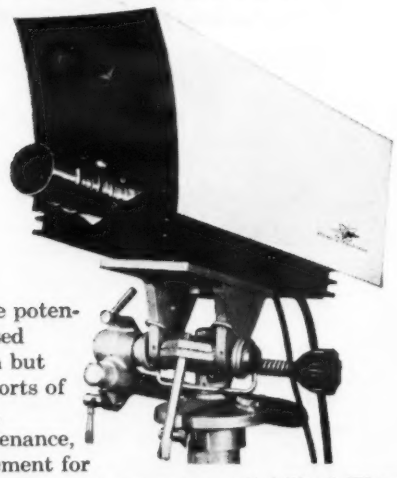
23880 LAKELAND BLVD. • CLEVELAND 23, OHIO

Zagar INCORPORATED

USE MORE SPINDLES TO DO MORE WORK

▲ For more details circle **NED-11 H1** on enclosed inquiry slip ▲

New Hawk 401 Utiliscope permits... AN UNPRECEDENTED PROPOSITION IN CLOSED CIRCUIT TELEVISION...



Impressed by the potential value of closed circuit television but *depressed* by reports of high initial cost, expensive maintenance, constant requirement for difficult adjustments, and general unreliability? Then listen . . . to an unprecedented proposition from the world's oldest manufacturer of industrial closed circuit television: Indoor or outdoors, in any kind of weather with practically any degree of illumination, Diamond Electronics' all new Hawk 401 Utiliscope is *guaranteed on a money-back basis* to provide a sharp, clear picture of just about anything . . . perimeter barriers, gates, transfer points, loading docks, construction areas, vehicular movement, rooftops, hazardous areas . . . all from one safe, comfortable and convenient location. The Hawk requires no special housing, no special power supply, no special adjustments for changing light and weather conditions. Just plug it into an ordinary 110 V outlet and forget about it.

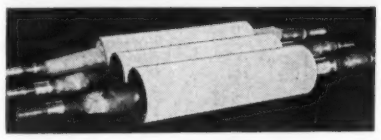
See for yourself. Call, write or wire and we'll arrange a demonstration within the week.

Diamond Electronics

Division of Diamond Power Specialty Corporation • Lancaster, Ohio

▲ For more details circle **NED-12 H1** on enclosed inquiry slip ▲

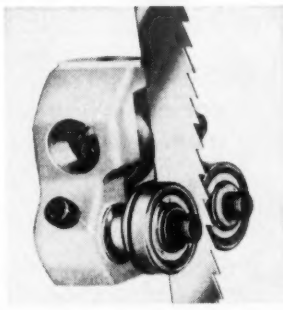
COATED ANNEALING ROLL service life greatly extended



An extremely hard coating applied to annealing furnaces rolls at near 15,000° F greatly extends their service life. Duralize 505 rolls are centrifugally cast in high alloy steel in either solid or sleeve types. They were developed to minimize material pick-up, common in annealing silicon strip. The coated rolls are used several months without refinishing, compared with several hours of usage for plain alloy rolls. • **Duraloy Co.,** Scottdale, Pa.

▲ For more details circle **NED-13 H1** on enclosed inquiry slip ▲

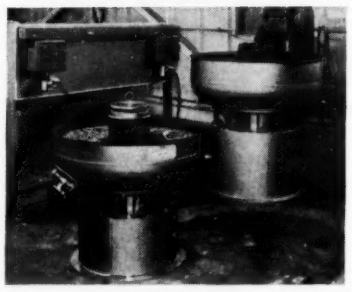
BAND SAW GUIDE has ball bearing thrust wheel



Guidall Sr. 600 band saw guide is suited for 75 to 80-lb thrust loads at speeds up to 10,000 fpm. on saws with blades from 3/16 to 1½ in. wide. Similar in design to the Guidall Jr. 500 guide, it features a ball bearing thrust wheel and support wheels on eccentric adjusting studs. • **Carter Products Co.,** Helmer Bldg., Grand Rapids 2, Mich.

▲ For more details circle **NED-14 H1** on enclosed inquiry slip ▲

VIBRATORY FINISHING MILL metal, plastic, and ceramic parts are polished, burnished, deburred



Three dimensional, high frequency vibration of the Sweco Vibro-Energy finishing mill imparts a gentle spiral-orbital action for polishing, burnishing, and deburring metal, plastic, and ceramic parts. This movement, together with vibrating and sliding action, finishes fragile parts in a relatively short cycle. Simple, compact equipment requires only one adjustment for decreasing or increasing parts motion through the media and compound. No vibration is transmitted through the base.

Motion of the charge brings about rapid unloading through a discharge door. The polyurethane lined, abrasion resistant mill has an open top. In production are 1, 3, and 10-cu ft models with respective capacities of 150, 400, and 1300 lb. • **Southwestern Engineering Co.,** Vibro-Equipment Div., 4800 Santa Fe Ave., Los Angeles 58, Calif.

▲ For more details circle **NED-15 H1** on enclosed inquiry slip ▲

1001 USEFUL BUYS!

FINE AMERICAN MADE INSTRUMENT—AT A TERRIFIC SAVING

STEREO MICROSCOPE for Industrial or Hobby Use

Up to 3" Working Distance—Erect Image—Wide 3 Dimensional Field

Now, ready after years in development—this instrument answers the long standing need for a sturdy, efficient STEREO MICROSCOPE at low cost. Used in production—in research—in the lab, shop, factory, or at home; for inspections, examinations, counting, checking, assembling, dissecting—speeding up and improving quality control. 2 sets of objectives on rotating turret. Standard pair of wide field 10X Kellner Eyepieces give you 23 power and 40 power. Additional eyepieces available for greater or lesser magnification. A low reflection coated prism erecting system gives you an erect image—correct as to right and left—clear and sharp. Helical rack and pinion focusing. Interpupillary distance adjustable. Precision, American-made. WE WILL SHIP ON 10-DAY FREE TRIAL.

Order Stock No. 85,056-AE.....full price.....$99.50 f.o.b. Barrington, New Jersey
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EDMUND SCIENTIFIC CO., Barrington, N. J.

▲ For more details circle **NED-16 H1** on enclosed inquiry slip ▲

MEASURE RPM EASY—IMMEDIATELY—ELECTRONICALLY!

NEW Pioneer Photo •TACHOMETER•

COMPLETELY TRANSISTORIZED CIRCUITRY

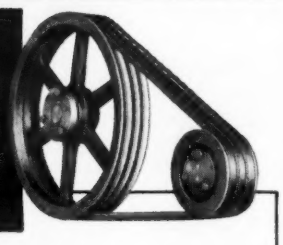
Press the button, aim the beam, read the speed . . . that's how easy and fast RPM measurement is with the new Pioneer Photo Tachometer. Ideal for use on lathes, drills, presses, drives and wheels. Operates electronically, with no wires or mechanical connections. Send for free bulletin.

THE PIONEER ELECTRIC & RESEARCH CORP.
Subsidiary of Penn Controls, Inc.

727 Circle Avenue • Forest Park, Illinois

▲ For more details circle **NED-17 H1** on enclosed inquiry slip ▲

Browning "358" GRIPBELT DRIVES



The "358" Gripbelt is narrower and deeper than regular types, providing efficient, more compact V-drives with fewer belt cross sections and all top-quality features

Investigate. See your Browning Distributor. Catalog V-358-B.

Browning . . . . OUR 75th YEAR

BROWNING MANUFACTURING COMPANY, MAYSVILLE, KENTUCKY

▲ For more details circle **NED-18 H1** on enclosed inquiry slip ▲

INSTANT LOW-FRICTION SURFACES

A mere press of the button gives you coefficients of friction as low as .07! New RULON® SPRAY also features:

- Instant drying
- Non-oily, non-gummy surfaces
- New cleanliness (can't collect dust)
- Thermal stability (−400 to +500°F.)
- Chemical inertness
- Insolubility

Applications unlimited! Lubricates machine parts and assemblies, bearings, belts, gears, conveyors, wood, leather, plastics, etc. Excellent mold release.

Distributor inquiries invited.

for RULON SPRAY data write DIXON

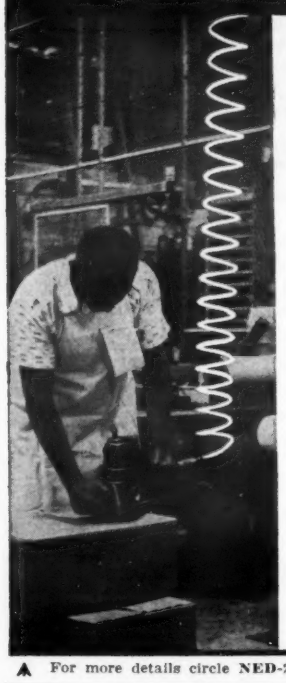
Dixon Corporation, 108 Burnside St., Bristol, R. I.

Dixon offers RULON in rods, tape, sheet, tubing and in molded and machined parts.

▲ For more details circle **NED-19 H1** on enclosed inquiry slip ▲

This is the AIR HOSE

THAT STRETCHES AND RECOILS JUST LIKE A TELEPHONE CORD!



nycoil
NYLON RECOIL HOSE

MORE CONVENIENT AND SAFER TO USE THAN CONVENTIONAL RUBBER HOSE

NYCOIL—the original recoiling air hose made of tough, permanently coiled nylon tubing. It offers more resistance to abrasion and corrosive materials and because of its bright, red color and self-storing ability, NYCOIL contributes to higher safety, better production and good housekeeping. Its smooth inside surface permits better air flow. Easily connected to tools and equipment requiring air pressure up to 200 psi.

Pat. Pending

SEND FOR DESCRIPTIVE FOLDER AND PRICES

NYCOIL COMPANY
Westfield 1, N. J.

▲ For more details circle NED-20 H1 on enclosed inquiry slip ▲

NEW BUX PERMANENT LIFTING MAGNET

RADIAL POSITIONER
Portable Magnetic
DRILL PRESS
Accurate Drill Positioning FAST!

New positive mechanical-action BUX Radial Positioner assures faster, accurate alignment of Bux portable-magnetic drill presses. Magnetic base remains stationary, safely holding unit to work on any "overhead" or "vertical" flatworking surface. Full 330° positioning-rotation. Lateral movement provided assures precision positioning for drilling, reaming, tapping. Available on Bux magnetic drill press models L-2RP and L-3RP.

FEATURES:
- Absolutely Permanent Ceramic Magnets
- Lifts better than 3000 lbs.
- 6½"x13" lifting face
- No wires • Completely self contained power pack
- Never needs recharging • No maintenance costs
- SAFE — Magnet cannot be turned off when in use
- No Batteries Required

BUX magnetic products

for FREE Literature and Name of nearest Dealer . . Write:
BUX MAGNETIC PRODUCTS, INC
3355 N. 10th St. San Jose 12, Calif.

▲ For more details circle NED-21 H1 on enclosed inquiry slip ▲

nothing SAFER
nothing STRONGER
nothing LIGHTER
nothing BETTER
than a good MAGNESIUM LADDER and WHITE METAL has the best magnesium ladders

1/3 LIGHTER THAN ALUMINUM! Whitelight Magnesium Industrial Step & Extension Ladders, Planks, Scaffolds are ruggedly built for heavy industrial and institutional use—giving maximum safety and service . . . with super-strong hinges and heavy-duty truss bracing, jumbo rivets, ultra-wide 4" serrated step ladder safety steps, wide serrated hard rubber mounted feet and many other superior features. Available in 12 sizes: 4 ft. to 20 ft. high.

Write today for catalog and prices. Distributors' inquiries invited.

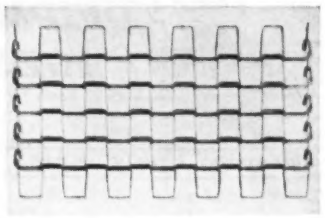
WHITELIGHT MAGNESIUM

Portable Equipment Division

WHITE METAL ROLLING & STAMPING CORP.
443 Fourth Ave., New York 16. MU 9-5160
Factories: Brooklyn, N. Y., Warsaw, Ind., No. Walpole, N. H.

▲ For more details circle NED-22 H1 on enclosed inquiry slip ▲

FLAT WIRE BELTING
in widths up to 12 ft



Flat wire belting in 1 x 1, ½ x 1, and ½ x ½-in. mesh sizes and widths up to 12 ft can be supplied in carbon, galvanized, and stainless steel. Standard wire width is ⅜ in., although wire width and rod diameters can be varied to meet strength requirements. Belting can be friction driven, but better alignment and more positive drive are obtained with cast or machined sprockets. • **Cambridge Wire Cloth Co.**, 1000 Choptank Rd., Cambridge, Md.

▲ For more details circle NED-23 H1 on enclosed inquiry slip ▲

DELAY LINES
for automatic machine control

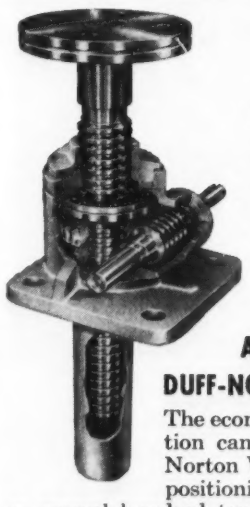
Delay of 224 microseconds for automatic machine control is supplied by the FM 400-224 Magline series of magnetostrictive delay lines. Two input coils and two output coils accommodate a pair of information channels which can be separated at the output by clocking, thus becoming the equivalent of two delay lines in one. Bit rate of 250 kc per channel is equal to a 500-kc bit rate. Delay lines are mounted on printed circuit cards which fit into a computer card file. Output is 40 mv minimum with a 50-ma peak driving current. Size is 6 x 4¾ x ½ in. • **Control Electronics Co.**, 10 Stepar Place, Huntington Station, L. I., N. Y.

▲ For more details circle NED-24 H1 on enclosed inquiry slip ▲

PORTABLE RADIO CONTROL
operates an unmanned locomotive

Using this portable radio control equipment which weighs about 5 lb, an operator can control an unmanned locomotive from a remote position. He can release brakes, start the locomotive in either direction, control its speed, allow it to coast, and apply the brakes. Provision is also made to blow a whistle, sound a bell, apply sand, and uncouple automatically. Locomotive apparatus consists mainly of a radio receiver with a demodulating unit, an equipment box with audio tone receivers and control relays, and a receiving antenna, all battery operated. Man-carried equipment consists of a hand held throttle-brake control and a belt-carried transmitter unit with auxiliary control switches. Trigger on hand control provides "dead man" safety braking. • **Westinghouse Air Brake Co.**, Union Switch & Signal Div., Swissvale 18, Pa.

▲ For more details circle NED-25 H1 on enclosed inquiry slip ▲



New Economy for Machinery Designers

A STANDARD LINE OF DUFF-NORTON WORM GEAR JACKS

The economies of standardized production can be realized by use of Duff-Norton Worm Gear Jacks for accurate positioning of loads weighing as much as several hundred tons. This standard line of eight jacks ranges from 2 to 100 tons in capacity. When jacks are used in an arrangement, added economy can be realized in raising unevenly distributed loads, since all models now have a uniform raise which permits jacks of varying capacities to operate in unison. Worm gear jacks are furnished with standard raises from 6 to 24 inches. Special raises can also be furnished. Write for Bulletin AD-66-N.

DUFF-NORTON COMPANY
Four Gateway Center • Pittsburgh 22, Pa.

▲ For more details circle NED-26 H1 on enclosed inquiry slip ▲

LOOKING FOR INFORMATION ON FINNED TUBE?

SEND FOR

WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. P, 17270 SOUTHFIELD RD., ALLEN PARK, MICH.
TUBEMANSHIP in Copper—Copper Alloys—Aluminum—Special Metals

BUY WOLVERINE TUBE—IT'S MADE IN AMERICA!

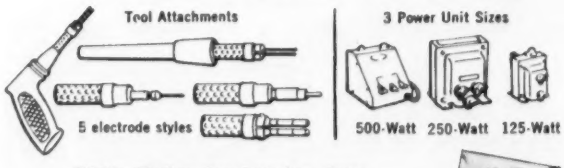
▲ For more details circle NED-27 H1 on enclosed inquiry slip ▲

For Fast, Precise Miniature and Sub-Miniature Soldering

IDEAL THERMO-TIP®
RESISTANCE SOLDERING TOOLS
No Cold Flow • No Burn Damage • No Set-Up

Cut time, cost and damage on all precision miniature and sub-miniature soldering jobs. Ideal Thermo-Tip Soldering Tools use resistance heating principle to concentrate *all heat on the job*—instantly, without set-up or pre-heating. Versatile "Pencil Grip" handle is easily manipulated for close-quarter soldering of aircraft connectors, printed circuits, pin type plugs, terminals—practically any job requiring pin-point assembling accuracy. Thermo-Tip is activated only on contact with work—doesn't waste current, can't damage adjacent parts, can't burn operators. Solder immediately flows all around to form stronger, neater, more uniform joints. Unit is so lightweight a woman can use it all day without tiring. Has a perforated aluminum sleeve which dissipates heat for exceptionally cool operation. Available with "pencil grip" and "pistol grip" style tools.

IDEAL SOLDERING EQUIPMENT FITS EVERY NEED



Write Today for Catalog Data

IDEAL INDUSTRIES, Inc.
1032-H Park Ave.,
Sycamore, Illinois

Please send Catalog data on Ideal Soldering Equipment

Name_____
Company_____
Address_____
City_____ Zone____ State____

SOLD THROUGH AMERICA'S LEADING DISTRIBUTORS
In Canada: Irving Smith, Ltd., Montreal

▲ For more details circle NED-28 H1 on enclosed inquiry slip ▲

Cotton work glove — Vinyl-impregnated Werx

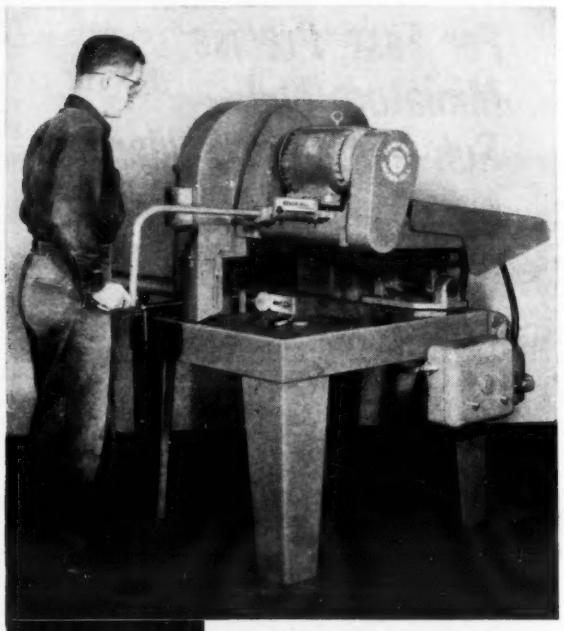
Before you buy cotton, compare

Werx gloves, of vinyl impregnated fabric, cost about 3 times as much as 8 oz. cotton gloves. *But they outwear cotton at least 5 to 1.* They also give much safer non-slip grip, are extremely flexible and machine washable. Thousands of jobs prove 40% to 70% savings. Why not prove it yourself?

Free Test Offer to D&B Listed Firms: Tell us your operation. From more than 50 types of impregnated and coated fabric gloves, we will send correct gloves for on-the-job comparison. Edmont Inc., 1240 Walnut St., Coshocton, Ohio. In Canada, Edmont Canada Ltd., Cowansville, Quebec.

Edmont JOB-FITTED GLOVES

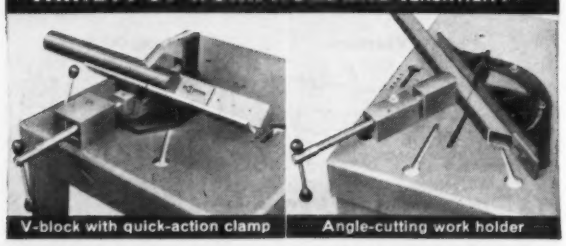
▲ For more details circle **NED-29 H1** on enclosed inquiry slip ▲



NEW! GREATEST CUT-OFF CAPACITY IN ITS CLASS!

This newest addition to the Sever-All line of abrasive cutting machines—the Model 2-A—provides greater cutting capacity and more flexibility than any other machine in its class. Check these important advantages: **Big capacity** • cuts 4" round or square solids, 6" diameter tubing or standard pipe, 6" x 1" flat stock, 6" angle iron and 8" channels. Cuts practically all metals. **Fast operation** • accurate cuts at rates of 2 to 3 seconds per square inch. **Power oscillation** • oscillation is the forward and backward motion of the wheel as it is fed down into the cut. It provides extra cutting capacity, longer wheel life, cooler cutting, and reduced operator fatigue. **Quality cuts** • clean, smooth cuts, require little or no finishing operation. **Economy** • specially developed Sever-All wheels provide lowest cost per cut.

VARIETY OF WORK HOLDERS GIVES UNUSUAL VERSATILITY



V-block with quick-action clamp — Angle-cutting work holder

Choose the work holders you need from several optional arrangements. These include the vise-type holder shown on the machine at top, plus the V-block and angle-cutting fixtures above. Screw-type and quick-action clamping may be used interchangeably.

Write for details on the new Model 2-A Sever-All abrasive cutting machine. Ask for Bulletin DH-299

SEVER-ALL ABRASIVE CUTTING **MACHINES** ACCO

Allison-Campbell Division
American Chain & Cable Company, Inc.
930 Connecticut Avenue, Bridgeport 2, Conn.

▲ For more details circle **NED-30 H1** on enclosed inquiry slip ▲

NEW EQUIPMENT DIGEST
A PENTON PUBLICATION

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Mansfield Sanitary, Inc. is a leading manufacturer of plumbing fixtures and brass plumbing goods. Its plant is modern, attractive, efficient.

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Write for Bulletin M-2992.
See our catalog in Sweets

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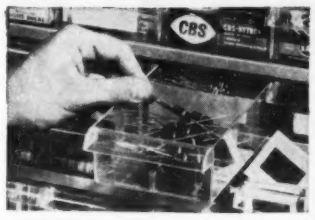
▲ For more details circle **NED-31 H1** on enclosed inquiry slip ▲

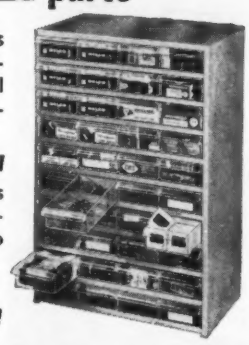
FREE! NEW CATALOG of A-M Cabinets that organize storage of all small parts



This new catalog shows how the scientific and efficient storage of small parts CUTS COSTS by saving space and time.

Model M40B illustrated

175 different stock models with from 6 to 128 drawers, or we can construct to your specific needs.



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A-M

AKRO-MILS CABINETS
Box 989-U • Akron 9, Ohio

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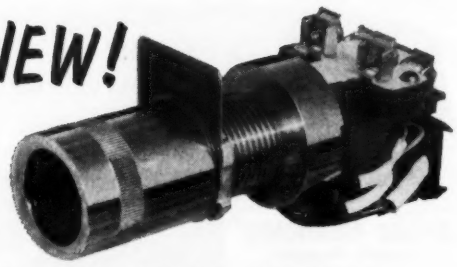
NEW!



EXPLOSION PROOF (NEMA 7) LIGHTED PUSHBUTTON STATION

Half the Space—Twice the Convenience

USE IT { AS A COMBINATION PUSHBUTTON-PILOT LIGHT / AS A PUSH-TO-TEST PILOT LIGHT

- All Standard Colors
- 110v., 220v., or 440v.
- 4 11/16" Overall Length

AVAILABLE NOW— As individual units in Nema 7 enclosures

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P. O. BOX 5385 NATIONAL 7-5530

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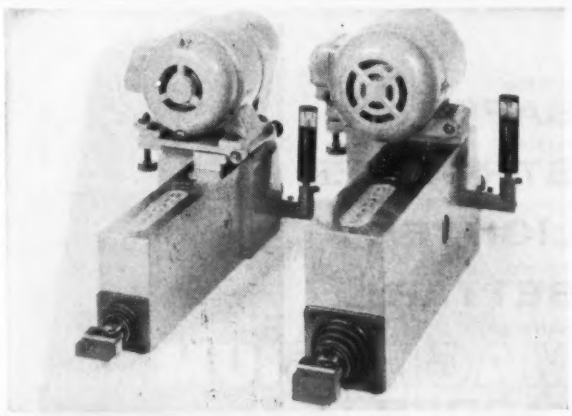

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SUPERFINISHING

for external superfinishing on lathes, grinders and other machine tools . . .

German Craftsmanship for the Smoothest Finish in the Shortest Time at the Lowest Cost.

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ENGINEERED *high volume production of*

SHELLS EYELETS STAMPINGS

Max. Blank: 6-inches
Max. Draw: 4¼-inches

ENGINEERING ASSISTANCE

Whenever a helpful assist is in order, Cly-Del engineers are available to cooperate with you from the planning stages through design, development, and production.

TOOLING FACILITIES

Under the same roof, with the same supervision and same undivided responsibility is the Cly-Del tooling facility where the tools for your production can be built, used in the Cly-Del manufacturing departments, and stored for your future use.

INQUIRIES

If you are concerned with a need for high-volume, high-quality shells, eyelets, or stampings we invite your inquiry (for more information or for an estimate) and promise fast, accurate action.

WRITE FOR BROCHURE

CLY-DEL MFG. CO.
21 SHARON ROAD
WATERBURY 20, CONNECTICUT

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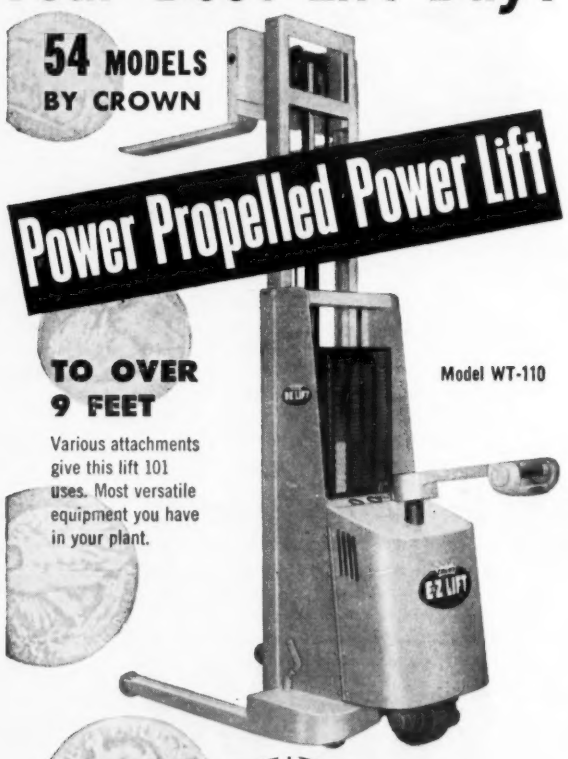
DOLLAR for DOLLAR
Your Best Lift Buy!

54 MODELS BY CROWN

Power Propelled Power Lift

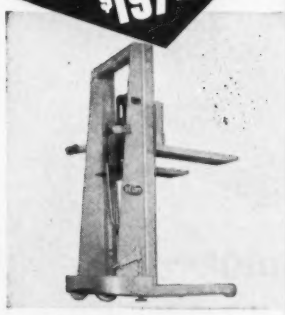


Model WT-110

TO OVER 9 FEET

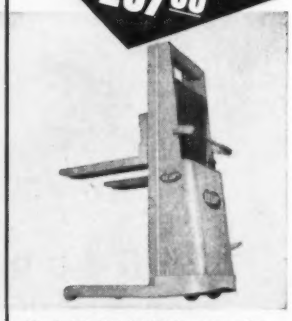
Various attachments give this lift 101 uses. Most versatile equipment you have in your plant.

$1970.00



Model H-57. Lifts loads up to half ton safely, efficiently. Operates in narrow aisles.

$2970.00

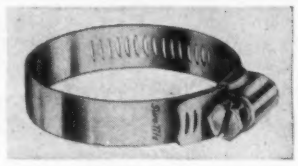


Model B-57. 1500 lb. capacity. Batteries and built-in charger. Lowest price power lift.

CROWN CONTROLS CO., INC.
NEDI AVENUE
NEW BREMEN, OHIO
MATERIAL HANDLING DIVISION

▲ For more details circle NED-36 H1 on enclosed inquiry slip ▲

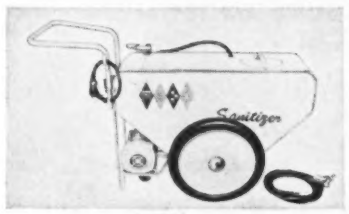
WORM-DRIVE HOSE CLAMPS
adjust with wrench or screwdriver



Made in sizes to fit ⅜ to 7-in. diameter hoses, Sure-Tite stainless steel adjustable hose clamps are now available with a deep-slotted hex head screw. These worm-drive self-locking clamps can be tightened or removed with a screwdriver, socket wrench or open end wrench. They are thus suited for hard-to-reach places. • **Wittek Mfg. Co.,** 4305 W. 24th Place, Chicago 23, Ill.

▲ For more details circle NED-37 H1 on enclosed inquiry slip ▲

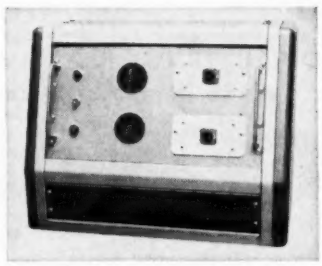
SPRAY TYPE CLEANER
is portable electric power machine



Cleaning and sanitizing cafeteria food serving and storing equipment and sanitary maintenance of locker and rest rooms, floors, or walls are typical uses for this Lincoln Sanitizer. Wheel mounted and powered by an electric motor, it has a pump for circulation and spray pressure. It applies Spray-Clean nontoxic germicidal sanitizing agent which kills bacteria on contact and is used with cold or warm, hard or soft water. • **Lincoln Mfg. Co.,** 3230 S. Calhoun St., Fort Wayne, Ind.

▲ For more details circle NED-38 H1 on enclosed inquiry slip ▲

CONTINUITY TESTER
checks up to 57 conductors at once

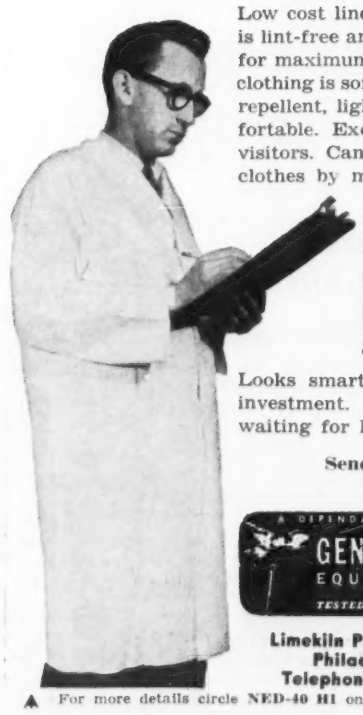


Instantaneous continuity checking of printed circuits, electronic assemblies, and individual conductors in multiconductor assemblies can be carried out with the Sedco Model NT-103 continuity tester. A manual selector with three channels of 19 circuits each is switched in rapid succession to check up to 57 conductors. An audible signal is produced if the circuit is complete; silence indicates an incomplete circuit. Tester operates on 110 v ac to check circuits while "dead." Standard quick-disconnect plugs with up to 57 circuit pins connect cable assemblies to the tester. Adaptors are available for use in megohm, hypot, voltage, and megger testing. Portable model shown measures 13 x 17 x 23 in. A rack mounted unit is also available, as are special testers with as many as 285 circuits. Applications include testing of machine tools, electronic or electric equipment, prototypes, and control systems. • **Noble-Tanksley Corp.,** 1650 Collamer Rd., Cleveland 10, Ohio.

▲ For more details circle NED-39 H1 on enclosed inquiry slip ▲

DISPOSABLE CLOTHING

Eliminates Laundry Costs



Low cost line of disposable clothing is lint-free and durably constructed for maximum wear resistance. The clothing is soft, fire-resistant, water repellent, light in weight and comfortable. Excellent, too, for plant visitors. Can be worn over street clothes by men or women.

AVAILABLE IN
Shirts—Pants—
Laboratory Coats—
Hats—Boots—
Aprons and Gowns.

Looks smart. Requires no capital investment. Eliminates cost and waiting for laundering.

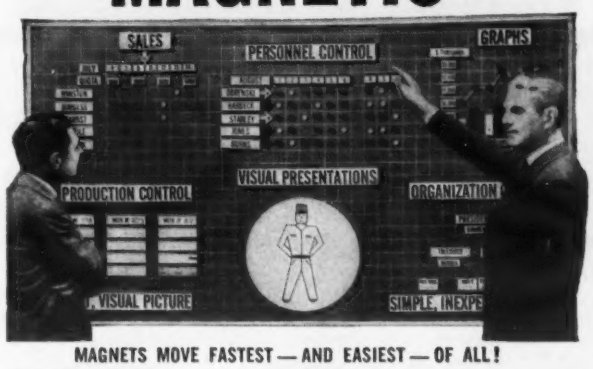
Send for bulletin No. 700

A DEPENDABLE GUIDE TO SAFETY
GENERAL SCIENTIFIC EQUIPMENT COMPANY
TESTED INDUSTRIAL SAFETY PRODUCTS

Limekiln Pike & Williams Ave.
Philadelphia 50, Pa.
Telephone Hancock 4-1550

▲ For more details circle NED-40 H1 on enclosed inquiry slip ▲

VISUAL **MAGNETIC** CONTROL



MAGNETS MOVE FASTEST — AND EASIEST — OF ALL!

SIMPLEST VISUAL SYSTEM FOR
- Production
- Personnel
- Sales
- Maintenance
- Scheduling
- Machine Loading
- Charts—Graphs
- Visual Presentations

COLORFUL MAGNETIC ELEMENTS
- show facts instantly
- organize for action
- eliminate mistakes
- get the job done

PRICED FROM **$38** INCLUDING MAGNETIC ELEMENTS

PRICE LIST & BROCHURE NEB **FREE** ON REQUEST

REPRESENTATION DESIRED IN SOME AREAS

Methods Research Corp.
105A Willow Ave., Staten Island 5, New York

▲ For more details circle NED-41 H1 on enclosed inquiry slip ▲

FOXBORO PNEUMATIC TRANSMITTING TACHOMETER

Mounts in any position— Never needs lubrication— No explosion hazards

This unique speed transmitter converts rpm directly to a proportional 3-15 psi air signal, and transmits it to any standard recorder or controller. Speed is recorded on uniform scale chart, providing accurate, easy-to-read measurements throughout the entire range. Full scale accuracy of ±½%. Available for any range. Write for complete details. **The Foxboro Company, 668 Neponset Ave., Foxboro, Mass.**

FOXBORO INSTRUMENTATION
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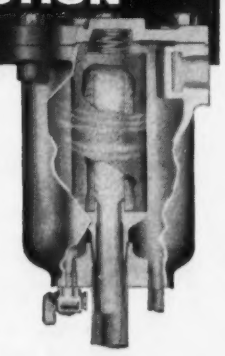
POSITIVE PRODUCTION PROTECTION



. . . accurately describes the exclusive double action cleaning of the ADAMS AIR FILTER . . . centrifugal separation followed by diffusion through the millions of tiny openings of the Poro-Stone element. The filter, installed at the terminal points of your system, completely frees the compressed air of entrained liquid, and any scale picked up in the distribution piping. Expensive production downtime, repairing air operated tools—cleaning fouled equipment components—reworking off-grade spray painting—are all unnecessary *and* eliminated when the Adams Poro-Stone filter provides clean, dry air. Adams units require virtually no service and maintenance — insuring continuous low-cost performance. They are available in a wide range of capacities to suit your needs. Bulletin 118 will give you all the facts. Write for your free copy today. R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, N. Y.

ADAMS QUALITY COMES THROUGH

▲ For more details circle NED-43 H1 on enclosed inquiry slip ▲

FITS ANY STANDARD AIR LINE
NO ELECTRICAL CONNECTIONS
NO MOVING PARTS – NO WEAR
ALUMINUM BODY – NO SPARKING
ECONOMICAL AND POWERFUL
EFFICIENT WET OR DRY PICK UP
LIGHT, PORTABLE, EASY TO USE

*INTER-CHANGEABLE ACCESSORIES
NOZZLE AND BAG ARE QUICKLY DETACHED AND CAN BE REPLACED WITH A WIDE VARIETY OF "TAPER FIT" ACCESSORIES WHICH ADAPT THE "LITTLE WINDY" AIRVAC TO DOZENS OF IMPORTANT TIME AND MONEY-SAVING APPLICATIONS. SEE BACK PAGE FOR ILLUSTRATIONS AND PRICES.

FREE TRIAL OFFER

M-M-A WANTS YOU TO KNOW THE MANY MERITS OF THIS UNUSUAL DEVICE AND INVITES YOU TO SEND YOUR FORMAL PURCHASE ORDER SPECIFYING "FIVE DAY FREE TRIAL". EITHER M-M-A OR ITS NEAREST DISTRIBUTOR WILL DELIVER A "LITTLE WINDY" AIRVAC FOR YOUR OWN TESTS AND EVALUATION. NO COST . . . NO OBLIGATION!

M-M-A, INC. LANCASTER, PA.

For more details circle NED-44 H1 on enclosed inquiry slip

IF you manufacture:

air conditioning
appliances
electronics
communications
electrical apparatus
fans
blowers
machine tools
materials handling
panelboards and switch boards
prime movers
pumps
compressors
general machinery

these Westinghouse products are tailored for you

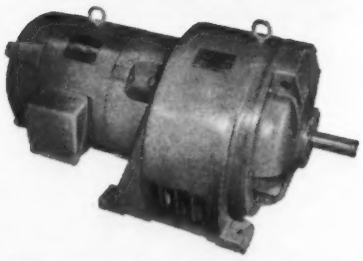
On these pages are shown some of the many components developed and manufactured by Westinghouse specifically for OEMs. Here is one single source for technical assistance, manufacturing and stocking of all of your electrical needs. Use this *total* service to solve your design and manufacturing problems now. Call your local Westinghouse Sales Engineer or write Westinghouse Electric Corporation, Box 868, Pittsburgh 30, Pa. *You can be sure . . . if it's Westinghouse.*

J-96163-R

Westinghouse

For more details circle NED-45 H1 on enclosed inquiry slip

NEW



Magnaflow electro-magnetic drives

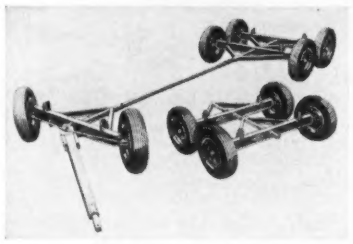
Economy, less space, 17:1 speed range or more. Includes everything needed for stepless wide-range speed control from a-c power. Has a-c motor drive, electromagnetic coupling, regulating exciter, operator control station plus variety of modifications to suit special operating conditions (¼ to 700 hp). Write for B-7875, Westinghouse Electric Corp., Box 868, Pittsburgh 30, Pa. *You can be sure . . . if it's Westinghouse.*

J-96167

Westinghouse

For more details circle NED-46 H1 on enclosed inquiry slip

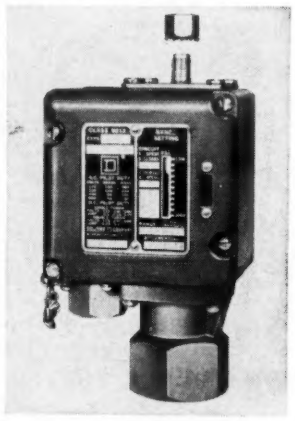
INDUSTRIAL WAGON UNITS
tandem axle accessory included



Line of industrial material handling wagon units includes a tandem axle which, when added to any Cobey wagon unit, increases the load carrying capacity by one-third. Units range in capacity from 7000 to 16,000 lb and meet various in-plant and yard handling requirements. The 5E wagon gear with 7000-lb capacity lists for $136. • **Cobey Corp.**, Galion, Ohio.

For more details circle NED-47 H1 on enclosed inquiry slip

HYDRAULIC PRESSURE SWITCH
features oil-tight construction

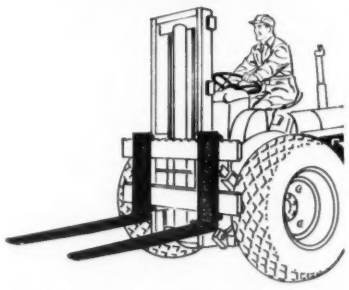


Adjustable from 2000 to 15,000 psi on rising pressure, this hydraulic pressure switch has a one or two-pole snap switch. Long life switching member and piston and a range locking nut contribute to low maintenance. Operating rate is up to 300 per minute. Damage from shock on extreme pressure surges is prevented by a strain relief. • **Square D Co.**, Bingham Road, Asheville, N. C.

For more details circle NED-48 H1 on enclosed inquiry slip

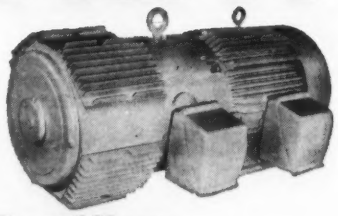
POWER TRUCK LOAD ARMS
made in any size and capacity

Standard and custom forged-steel load arms or forks for all types and makes of fork lift and power trucks are available for many diverse applications. Pin type with an eye welded to the top and hook type with hooks welded in place are offered in 4, 5, and 6-in. widths and several thicknesses, tip thicknesses, taper lengths, and bend thicknesses. Length and height are to order. Also made are blank arms for buyer fabrication and finishing. Load arms are offered in any quantity for OEM or replacement use, with or without customers' trade marks and part numbers on each unit. • **Hyster Co.**, Industrial Products Div., Box 4318, Portland 8, Oreg.



For more details circle NED-49 H1 on enclosed inquiry slip

NEW



Rectiflow adjustable speed drives

Economical, simple, reliable, over 3:1 speed range or higher, inherent constant hp characteristics. 20 hp to 600 hp in open and totally enclosed air-cooled designs. Inherent fast response and close speed regulators make this drive a natural for a wide variety of machine tool applications. For more information, write Westinghouse Electric Corporation, Box 868, Pittsburgh 30, Pa. *You can be sure . . . if it's Westinghouse.*

J-96169

Westinghouse

For more details circle NED-50 H1 on enclosed inquiry slip

NEW DAYTON SAFETY TACH

PHOTOELECTRIC TACHOMETER

- PUSH-BUTTON OPERATED
- SELF-CONTAINED
- BATTERY POWERED
- TRANSISTORIZED
- RANGE 0-12,000 RPM*

IMMEDIATE DELIVERY

ONLY $95.00

Batteries $4.50 Extra

FOR GREATER SAFETY AND PERFORMANCE

Know running speeds of grinding wheels, spindles, cutters, shafts, shuttles, pumps, fans—any rotating or reciprocating part. Reads constant or changing speeds. Requires no mechanical or electrical contact.

SEND FOR LITERATURE

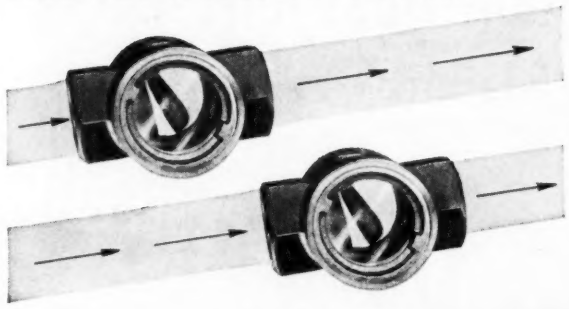
*MODEL 33A
0-3000 RPM
0-6000 RPM
0-12000 RPM

DAYTON SAFETY

DAYTON SAFETY GRINDING WHEEL DIVISION
SIMONDS WORDEN WHITE COMPANY
1101 NEGLEY PLACE
DAYTON 7, OHIO

For more details circle NED-51 H1 on enclosed inquiry slip

FLO-EYE® FLOW INDICATORS PROVIDE LOW COST PROTECTION



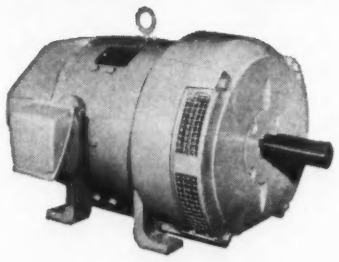
The new low-priced SK Flo-Eye® Indicator serves all normal sight-flow functions, and has most of the features of more costly units. By permitting a visual examination of the fluid in pipelines, the Flo-Eye can prevent damage to expensive process equipment.

For details—ask for Bulletin 18W.

Schutte and Koerting COMPANY
INSTRUMENT DIVISION
2227 STATE ROAD, CORNWELLS HEIGHTS, BUCKS COUNTY, PA.
EXPORT DEPT.: 1505 Race Street, Philadelphia 2, Pa., U.S.A.

For more details circle NED-52 H1 on enclosed inquiry slip

NEW



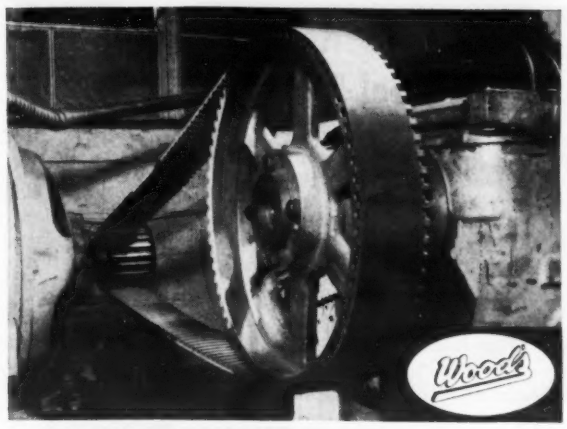
TEFC d-c motor

For fastest d-c motor response! New totally-enclosed, fan-cooled Life-Line H d-c motor with 75% less armature inertia, 500% commutating ability for acceleration results in faster stops, quicker stops, faster reversing. 30 hp rating accelerates from 0 to 1750 rpm—fully loaded—in 1.1 sec.; similar response in ratings 1 to 75 hp and higher. Write Westinghouse Electric Corporation, Box 868, Pittsburgh 30, Pa. *You can be sure . . . if it's Westinghouse.*

J-96168

Westinghouse

For more details circle NED-53 H1 on enclosed inquiry slip



TDF/61

POSITIVE ACTION PLENTY OF BRAWN

Sturdy, compact Wood's Timing Belt Drives offer outstanding solutions to a wide variety of drive problems. They provide instantaneous, slip-free response; require no lubrication, no take-up devices . . . eliminate belt matching. Speed range, 0 to 16,000 fpm. Load capacity, up to 600 hp and above. Look into the many other cost-saving advantages, plus Wood's "5 Simple Steps" to Timing Drive Selection. Write for BULLETIN 21103.

T. B. WOOD'S SONS COMPANY
CHAMBERSBURG, PENNSYLVANIA
ATLANTA • CAMBRIDGE • CHICAGO • CLEVELAND • DALLAS

▲ For more details circle **NED-54 H1** on enclosed inquiry slip ▲

CLARK-COOPER has a Metering Pump to suit your needs

Clark-Cooper pumps provide accurate, repeatable flow metering of all liquids, slurries and suspensions.

Clark-Cooper offers a complete line of interchangeable diaphragm and plunger pumps for you to choose from.

Clark-Cooper pumps are proved in hundreds of industrial applications.

Capacities range from 1500 c.c./ph to 3400 GPH—pressures 10,000 P.S.I.—repeatable accuracies to ±½%.

Exclusive CC drop-out check valve system provides easy maintenance.

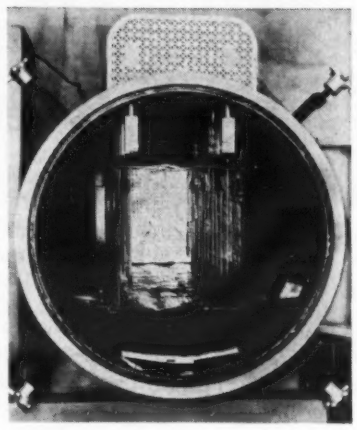
All CC pumps are exhaustively tested prior to shipment.

Write today for complete data

CLARK-COOPER DIVISION
FREDERIC B. STEVENS, INC.
Palmyra, New Jersey
REPRESENTATIVES IN ALL PRINCIPAL CITIES

▲ For more details circle **NED-55 H1** on enclosed inquiry slip ▲

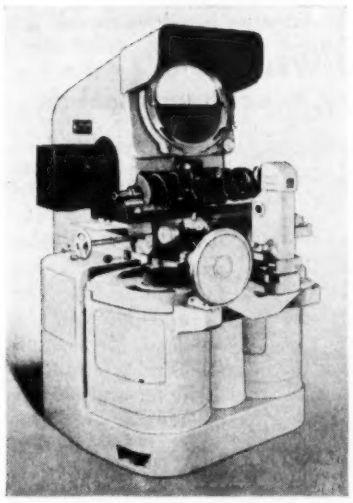
VACUUM FURNACES heat up to 2500° C



High temperature materials research, development, and production in various fields are applications for 27 models of cold wall vacuum furnaces made in nine sizes. They produce up to 2500° C or 4500° F in internally heated vertical or horizontal hot zones. Heating elements consist of a series of refractory metal rods attached to quick-acting water cooled connectors. Heat shield is several layers of thin, dimpled refractory metal sheets which may be removed undamaged for cleaning or for replacement. Sizes range from 60 to 2700 cu in. Vertical models range in size from 3 x 8 in. (diameter x height) to 17 x 12 in. Horizontal unit sizes are from 3 x 4 x 8 in. to 12 x 17 x 33 in. Automatic control is optional. • **Vacuum Specialties, Inc.**, 34 Linden St., Somerville 43, Mass.

▲ For more details circle **NED-57 H1** on enclosed inquiry slip ▲

OPTICAL COMPARATOR 14-in. screen usable for measuring



Applicable for precision inspection of such parts as lead screws, die bodies, castings, forgings, and large circuit boards, this Model FC-14ER optical comparator has a 14-in. screen and magnifications from 10 to 100 X. Features include electronic variable speed power elevation, variable light intensity control, six-position automatic indexing lens selector, normal reflection unit, tracing attachment, and vertical illumination and staging equipment. With a 32-in. roll table it has a 10-in. measuring capacity with a 1-in. micrometer graduated in 0.0001-in. increments. Vertical measuring range is 8 in., and angle measuring capacity is 360 degrees with a 1-minute vernier. Lenses are in 100, 62.5, 50, 31.25, 20, and 10-X magnifications. • **Jones & Lamson Machine Co.**, Optical Comparator Div., 160 Clinton St., Springfield, Vt.

▲ For more details circle **NED-58 H1** on enclosed inquiry slip ▲

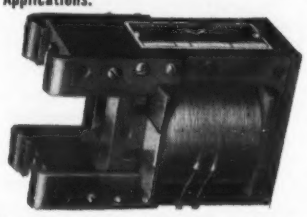
TROMBETTA SOLENOID CORP.

MILWAUKEE WISCONSIN U.S.A
329 N. Milwaukee St. • Phone BRoadway 1-8347

NA-700 LINE OF SHORT STROKE SOLENOIDS

PLUS FEATURES, SUPERIOR DESIGN DELIVER PEAK PERFORMANCE

- Positive 3-Point Contact and Non-Magnetic Plunger Guides Assure Much Longer Solenoid Life.
- Non-Magnetic Plunger Guides Prevent Sticking-Dragging, Permitting Solenoid To Be Mounted in Any Position Without Affecting Operation or Life Expectancy.
- 230 Standard Types and Sizes to Take Care of Any and All High Class Applications.



NA-764 SHORT STROKE SOLENOID

Specially adapted for hydraulic and air valve operation. Solenoids may be mounted in any position at any angle to the vertical without affecting operation. Silent operation in sealed position. Interchangeable size for size with entire line of National Acme line of solenoids. Pull rating same for all voltages and frequencies, AC as well as DC. Write for bulletin EE-178.

IN 1924 MR. TROMBETTA GAVE THE WORLD THE COMMERCIAL SOLENOID

▲ For more details circle **NED-60 H1** on enclosed inquiry slip ▲

TIME SAVINGS UP TO 50%!

in working
Metals • Wood • Glass • Fiberglass
Laminated Materials
Some Plastics

BURR, CLEAN, FINISH, POLISH, in one operation with revolutionary abrasive-and-rubber BRIGHTBOY

REPLACES OLDER, COSTLIER METHODS

COUNTLESS CASE HISTORIES attest to the exceptional success of Brightboy's unique working action. *You have to see it to believe it* . . . abrasive and rubber functioning simultaneously, speedily.

JOB-MATCHED STOCK TEXTURES in wheels, sticks, rods, blocks and points, are specifically suited to your production. Wide range of rubber binders, soft to tough, for machine and manual operations.

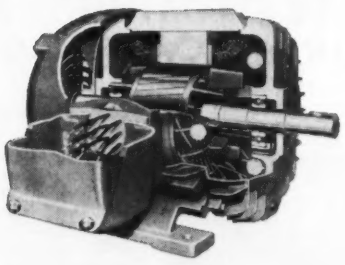
LEARN THE REVEALING FACTS ▶ about this broad, new concept of abrasive applications and versatility. Write for Brightboy's Catalog-Manual covering Methods and Applications, Machine Speeds, Job-Matched Stock Items, Wheel Sizes—Complete Range.

WELDON ROBERTS Brightboy RUBBER CUSHIONED ABRASIVES

BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO.
95 North 13th Street, Newark 7, N. J.
America's Pioneer Manufacturer of Rubber-Bonded Abrasives

▲ For more details circle **NED-61 H1** on enclosed inquiry slip ▲

NEW



Guardistor motors

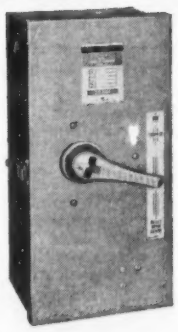
Guaranteed against burnout due to overheating from any cause! Exclusive static-semiconductors imbedded in windings respond with snap action *only* when windings reach critical temperature. Anticipated nuisance trips are avoided. Use full rated hp safely. Available for any size motor. Write for Bulletin B-7876 to Westinghouse Electric Corp., Box 868, Pittsburgh 30, Pa. *You can be sure . . . if it's Westinghouse.*

J-96171

Westinghouse

▲ For more details circle **NED-56 H1** on enclosed inquiry slip ▲

NEW



AB-I breakers

Often cost less than safety switches yet are better, smaller, lighter. AB-I Breakers for motor circuit protection are installed faster, approximately half the size, ⅓ the weight. Machine operator can "re-set" and contacts can be visible. Write for Bulletin B-7350 and be convinced—Westinghouse Electric Corporation, Box 868, Pittsburgh 30, Pa. *You can be sure . . . if it's Westinghouse.*

J-96164

Westinghouse

▲ For more details circle **NED-59 H1** on enclosed inquiry slip ▲

NEW

BF relay

Saves space, cuts cost, is specially engineered for machine tools. 50% less space, front accessible terminals, low temperature operation, lower installed cost, long life. In both 4-pole and 8-pole frames, rated at full load current of 6 amps/300 volts a-c 60 amp inrush. Write for Bulletin B-7345, Westinghouse Electric Corporation, Box 868, Pittsburgh 30, Pa. *You can be sure . . . if it's Westinghouse.*

J-96165

Westinghouse

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LOW COST PROTECTION

Nearest thing to a gas mask. Double filters guard against nuisance gases, vapors, chemical fumes, dust. Available in Code "A" for inorganic gases; Code "B" for organic vapors; Code "AB" for inorganic and organic use. Supplied with Code "B" cartridges unless otherwise specified. See your safety equipment supplier or order sample direct —$5.00 postpaid.

H. S. COVER
Dept. 805, South Bend 14, Ind.
"Respirators for Industry Since 1894"

For more details circle **NED-63 H1** on enclosed inquiry slip

New!...LOW PRICED HYDRAULIC POWER UNIT

- Compact
- Provides easy control of attachments on tractors or machinery

Hein-Werner HYDRO-UNIT is completely self-contained

Hein-Werner Hydraulic Power Units are complete with pump, valve, and reservoir. Gear pump delivers up to 2½ GPM at pressure up to 400 PSI and has a shaft speed up to 1800 RPM. Directional Control Valve operates either three or four way for single or double-acting cylinders. Measures only 5" diameter, less than 10" long yet contains Pressure Relief Valve and Reservoir tank. Economically priced, fast off the shelf delivery. Write for complete catalog page No. 308. Cylinders also available.

Hein-Werner Corporation, Waukesha, Wisconsin
GENERAL OFFICES WAUKESHA, WIS., U.S.A.
PLANTS: WAUKESHA, WIS. OSHKOSH, WIS. AJAX, ONTARIO

For more details circle **NED-64 H1** on enclosed inquiry slip

America's Fastest Working **CABLE SCAFFOLDING**

Reduce your scaffolding costs and increase actual working time IMMEDIATELY with the all-new WONDER winch. Special gear ratio and "bicycle" winding makes it quick and easy to operate. Gears are completely enclosed to keep out water, grit, paint, chips and minimize maintenance. Automatic locking "fixator" brakes assure 100% safety. Stops and locks without slipping the moment winding is stopped. Aeronautic steel cable (in 100' and 160' lengths) supports 1100 lbs. Complete with special 24" triangles. UL approved. This heavy duty winch is priced lower than those of half the capacity.

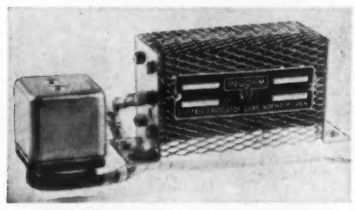
Mail coupon today for free brochure and prices.

NEWARK LADDER & BRACKET CO., INC.
Manufacturers of Dependable Equipment Since 1902
CLARK, N. J.

NEWARK LADDER & BRACKET CO., INC.
BOX 8 CLARK, N. J.
Gentlemen:
Please mail your brochure and prices on the WONDER winches.
Name .....
Address .....
City ..... State .....

For more details circle **NED-65 H1** on enclosed inquiry slip

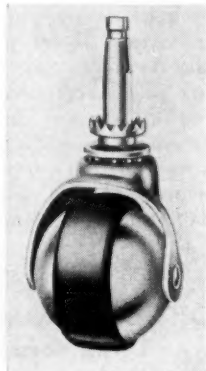
VOLTAGE REGULATOR made in 15 to 1000-va models



Line voltage is held constant within 2 per cent of normal regardless of line frequency changes from 50 to 450 cycles with Regohm voltage regulator. Extremely compact, lightweight unit is offered in models to handle 15 to 1000 va with input voltage variations as high as ±20 per cent, plus load changes from zero to full. The regulated output can be either alternating or direct current, and remote sensing is optional. Response time is less than 3 cycles. • **Electric Regulator Corp.**, Pearl Street, Norwalk, Conn.

For more details circle **NED-66 H1** on enclosed inquiry slip

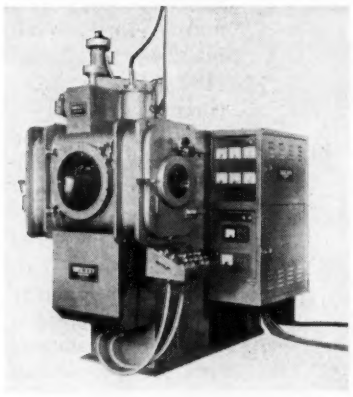
BALL TYPE CASTER rolls & swivels easily on floor or rug



Both hard and soft tread wheels are featured on the Ballerina, a ball type furniture caster that rolls easily on any type of floor surface or rug. It has a functional spherical design and swivels easily. Mounting arrangements include plate and socket stem types. • **Bassick Co.**, 3045 Fairfield Ave., Bridgeport 5, Conn.

For more details circle **NED-67 H1** on enclosed inquiry slip

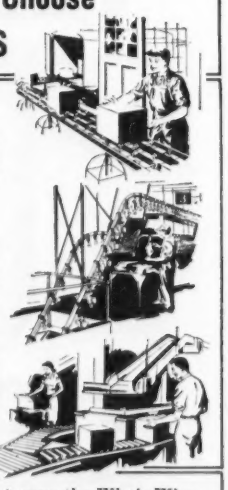
ELECTRON BEAM WELDER for refractory, reactionary metals



Equipped with a 20 x 30 x 48-in. vacuum chamber, Model VX-20-30-48 electron beam welder develops a 350-ma beam at 30 kva. The beam spot can be focussed into an 0.030-in. minimum diameter and over 1-in. maximum diameter. The vacuum chamber is pumped to 0.0001 mm Hg in about 4 min automatically. The electron gun has traverse and servo motions powered by speed and servo controls which also effect longitudinal motion to the internal work table. Numerical control is readily adapted to this Sciakydyne control concept. Machine is particularly suited for welding various refractory and reactionary metals as well as dissimilar groupings. • **Sciaky Bros., Inc.**, 4915 W. 67th St., Chicago 38, Ill.

For more details circle **NED-68 H1** on enclosed inquiry slip

For Cost-Cutting EFFICIENCY in Any Handling Job...Choose BUSCHMAN CONVEYORS



PORTABLES
Gravity, powered; roller, wheel, belt: all in standardized line. Quick-Eez Coupling all units permits many low-cost assemblies.

CABLE CONVEYORS
Adapt to many uses, speed production, cut costs. Overhead trolleys easily installed from in-stock units. Smooth running, durable, efficient.

COMPLETELY ENGINEERED
Buschman utilizes every type conveyor needed to make your handling economical, practical. Using Buschman plans and stocked parts, you can install.

Buschman engineering and equipment serve the Who's Who in Industry with all conveyor types. Our experience can help you. Tell us your problems; let us send literature and suggestions. The E. W. Buschman Co., 4482 Clifton Avenue, Cincinnati 32, Ohio.

Buschman CONVEYORS
Complete Conveyor Systems for all Types of Industries—Engineered, Manufactured, Installed
Representatives in Principal Cities
365

For more details circle **NED-69 H1** on enclosed inquiry slip

FIND OUT ABOUT FAIRMONT'S NEW STAINLESS CLAD ALUMINUM

Honest, unretouched photo above shows segment of something that's opening doors wide to countless product improvements and new products, leading to more and better business for fabricators: *Aluminum combined with stainless steel, in perfect molecular bond!* They said it wasn't practical, but Fairmont creativity did it! Note virtually undetectable demarcation at bond line of this homogeneous combination of two metals.

For facts, figures, application ideas, call the Fairmont office in your area. Or write *Vice-President, Sales Dept. 36H, Fairmont Aluminum Company, Fairmont, West Virginia.*

FAIRMONT ALUMINUM COMPANY
Subsidiary of **CERRO CORPORATION**
FAIRMONT, WEST VIRGINIA, Fairmont 3010 Cable Address, Farmon

For more details circle **NED-70 H1** on enclosed inquiry slip

Exciting news from the 7 seas!

U. S. S. NAUTILUS
Aqua-Clear protects vital parts of this famous ship from rust and corrosion.

TO PREVENT RUST AND CORROSION

— in water lines, tanks, water jackets, condensers, heat exchangers, air conditioners, etc. — hundreds of ships use...

AQUA-CLEAR

Read the record of 8 years success in the toughest test of all: ocean-going ships —

"Aqua-Clear has done an excellent job economically in protecting the ship's complete fresh water system — ship and shore supplied — since 1957." —S.S. AMERICA

"On sea water and fresh water cooling of engines, we find no deposits or corrosion in pipes or cooling manifolds."—HAMBURG-S.A. LINES

"1956 installed Aqua-Clear on 6" sea water intake. Since then have not had to change a single shaft in pumps, and condensers have remained completely clean."—FROZEN FISH PLANT, ICELAND

"We have had remarkable experience with an American corrosion inhibitor and in the future we will recommend only this product (Aqua-Clear) to our customers."—MAK (EUROPEAN) DIESEL MFR.

Recognized by U.S. Coast Guard, U.S. Dept. Agriculture, British Ministry of Transport, German Navy, U.S. Dept. Health, Education & Welfare.

NOW BEING MADE AVAILABLE IN TYPES FOR INDUSTRIAL NEEDS

SUDBURY LABORATORY, BOX 1-A, SUDBURY, MASS.

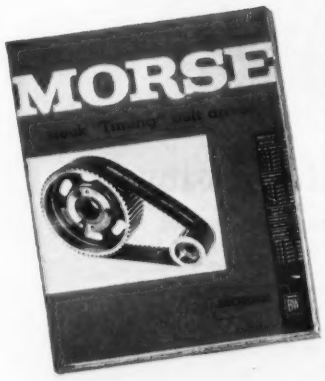
Investigate this thoroughly proven method

SEND FOR "ADVANCE REPORT TO INDUSTRY"

For more details circle **NED-71 H1** on enclosed inquiry slip

FREE!

NEW 68-PAGE MORSE "TIMING"® BELT DRIVE CATALOG



Combines 6 catalogs in 1!
New Morse *"Timing" Belt Drive* Catalog TB-58 tells you everything you need to know about selection, installation, and use of these positive, lubrication-free drives. Combines engineering information with drive-selection data on these five basic pitches: 1/5", 3/8", 1/2", 7/8" and 1-1/4".

Write today for your copy of this handy catalog: MORSE CHAIN COMPANY, DEPT. 19-81 ITHACA, N.Y. Export Sales: Borg-Warner International, Chicago 3, Illinois.

MORSE
A BORG-WARNER INDUSTRY

For more details circle **NED-72 H1** on enclosed inquiry slip

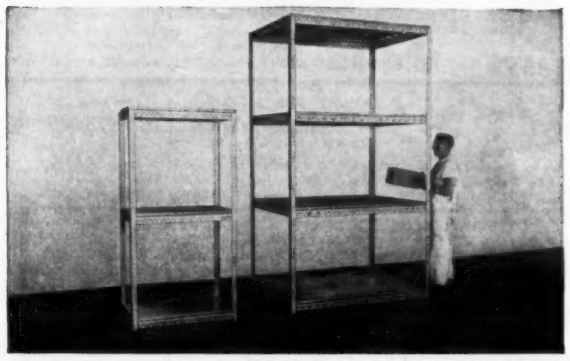
NEW CONVENIENCE . . . NEW ECONOMY

ACME STEEL SLOTTED ANGLE KITS

For the first time—"pre-cut" kits of adaptable, adjustable, reusable Acme Steel AIM Brand Slotted Angle. Carts, tables, benches . . . die, bar and sheet stock racks, storage units—nearly 300 types and sizes of structures. These ready-to-assemble units offer considerable material savings, plus the time and labor savings made possible only by this most versatile framing. Write for complete-line catalog.

ACME STEEL IDEA LEADER IN FRAMING

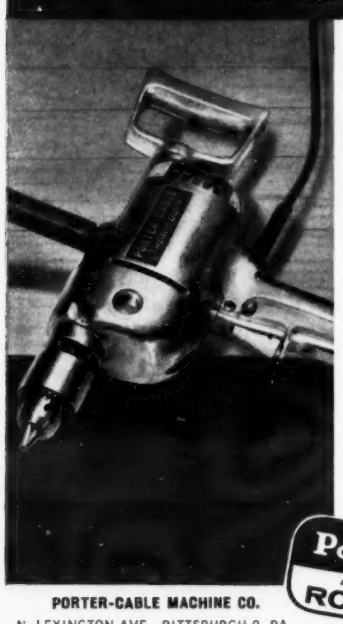
ACME STEEL COMPANY, Dept. NBD-81
135th St. & Perry Ave., Chicago 27, Ill.



For more details circle NED-73 H1 on enclosed inquiry slip

PORTER-CABLE

NEW VERSATILE REVERSIBLE ½-IN. DRILL!



Positive drive with full 6-amp. power in either direction. Interlock reversing switch is conveniently located below trigger. Interlock pin prevents reversing while motor is running. Ruggedly built to Porter-Cable quality standards. Furnished with 10-ft. 3-conductor cable, strain reliever, spade handle, auxiliary handle. See Model 516R at your distributor or write for folder.

Porter-Cable another fine product by ROCKWELL

PORTER-CABLE MACHINE CO.
N. LEXINGTON AVE., PITTSBURGH 8, PA.

For more details circle NED-74 H1 on enclosed inquiry slip

CUSTOMIZE STORAGE AT LOWEST COST WITH

ACME STEEL RACKS

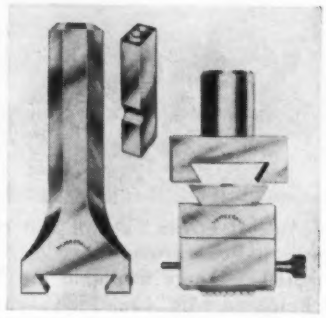
A new, broadened line of AIM Brand standard modular components for heavy-duty mass storage now enables you to utilize every foot of space without sacrificing quick access. Exclusive Load Lock, 3" square columns and tapered keyhole slots assure maximum strength, rigidity and safety. Erect either all-purpose, drive-in or drive-thru layouts. No "special order" expense. Write for new complete-line catalog.

ACME STEEL IDEA LEADER IN FRAMING

ACME STEEL COMPANY, Dept. NBD-81
135th St. & Perry Ave., Chicago 27, Ill.

For more details circle NED-75 H1 on enclosed inquiry slip

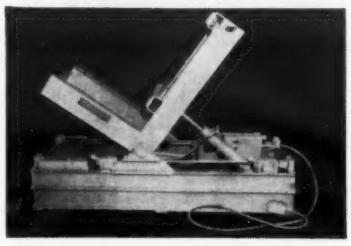
HAND OR PRESS TYPEHOLDER
several sizes for stamping metals



Dovetailed configuration of these hand or press typeholders allows speedy changing from press to hand stamping without disturbing setups. Made from quality steel in various type sizes for stamping metals, units are quickly loaded. A simple pin holds the type securely. • **Numberall Stamp & Tool Co.**, Huguenot Park, Staten Island 12, N. Y.

For more details circle NED-76 H1 on enclosed inquiry slip

REEL TIPPER
is loaded with a fork lift truck

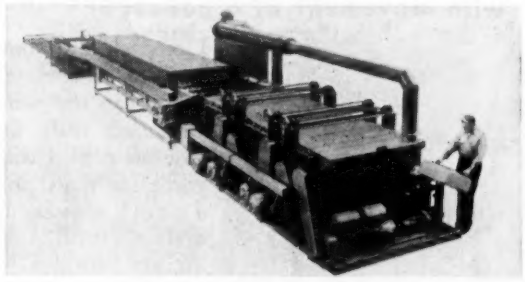


Illustrated Weld-Bilt reel tipper will turn a 42-in. reel weighing up to 5000 lb through 90 degrees in about 20 sec. Larger sizes are also offered. Reel is placed on or taken off of tipper with a fork truck or crane. This electric-hydraulic unit has safety limit switches to prevent overtravel, and its control is remotely mounted. • **West Bend Equipment Corp.**, Water Street, West Bend, Wis.

For more details circle NED-77 H1 on enclosed inquiry slip

BRUSH COATING PROCESS
for production-coating metal stock

Most of the usual drying problems are reportedly eliminated by this machine which brush coats metal stock with dry type drawing lubricants. Thin films of good



adhesion and consistency are obtained at relatively high speed. Both hot and cold materials are applied with equal efficiency. Illustrated is an integrated washer, coater, dryer combination which uses the new brush coating technique. Handling equipment for entrance and exit ends is also available. • **Roth Corp.**, 501 E. 21st St., Lorain, Ohio.

For more details circle NED-78 H1 on enclosed inquiry slip

Kodak

KODAK ANNOUNCES

3 important new Kodagraph Films

Superb, high-contrast emulsions on new ESTAR BASE assure you of crisp, sharp, long-lasting, dimensionally stable reproductions of your drawings, maps, other documents. These three new ESTAR BASE films are also highly translucent, have an excellent matte surface on both sides . . . won't turn yellow or become brittle, and are moisture resistant. Available in cut sheets, and in rolls up to 52" wide.

1. **Kodagraph Autopositive Film, ESTAR BASE.** Ideal for general reproduction work—gives you same-size positive intermediates *directly* without negative step.
2. **Kodagraph Contact Film, ESTAR BASE.** Bound to be a darkroom favorite in making same-size reproductions of old or weak line originals from film or low-cost paper negatives.
3. **Kodagraph Projection Film, ESTAR BASE.** Gives you sharp, clean results when enlarging microfilm negatives, or making reductions from film negatives.

Call local Kodagraph dealer for free folder, or write to Eastman Kodak Company, Graphic Reproduction Division, Rochester 4, N. Y.

NEW! Kodagraph

REPRODUCTION FILMS

For more details circle NED-79 H1 on enclosed inquiry slip

BUILD IT FASTER FOR LESS WITH

ACME STEEL SLOTTED ANGLE

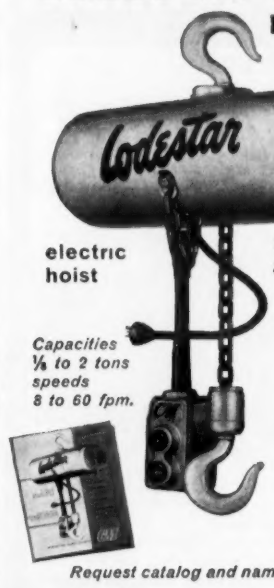
It bolts together to build anything: racks, mezzanines, stairways, tables, carts, platforms, supports. Simply shear AIM Brand Slotted Angle lengths to size with an Acme Steel cutter, bolt, put to work. Exclusive hole-slot pattern permits unlimited design freedom. No drilling, sawing, welding. No figuring to fit pieces. Write for full-facts catalog.

ACME STEEL IDEA LEADER IN FRAMING

ACME STEEL COMPANY, Dept. NBD-81
135th St. & Perry Ave., Chicago 27, Ill.

For more details circle NED-80 H1 on enclosed inquiry slip

Leads the way to DEPENDABLE LIFTING



electric hoist

Capacities ⅛ to 2 tons speeds 8 to 60 fpm.

Outstanding Lodestar features include:

- Push Button operation for convenient control.
- Lowest Headroom for highest lifting.
- Rugged Construction for heavy duty service.
- Dual Braking System for positive load control.
- CM-Alloy Welded Link Chain for dependability and maximum wear.
- Sealed-In Lubrication for long hoist life.

Request catalog and name of local stocking distributor.

CM HOISTS

CHISHOLM-MOORE HOIST DIVISION
Columbus McKinnon Corporation
FREMONT AVE., TONAWANDA, N. Y.
New York (Mountainside, N. J.)
Chicago • Cleveland • San Francisco
In Canada: Columbus McKinnon Limited, St. Catharines, Ontario

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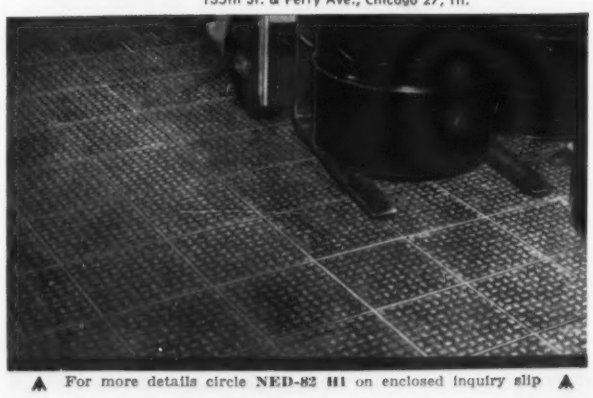
FOR FLOORS THAT HAVE TO TAKE IT

ACME STEEL FLOOR PLATE

Press Acme Steel Floor Plate into topping mix . . . level . . . squeegee-off excess topping and that's it. A floor of 74% steel for practically wear-proof durability, 26% concrete for skid-proofing. Low initial cost, long-term wearability, no-waste characteristics add up to the best floor at least cost. Write for facts.

ACME STEEL IDEA LEADER IN FLOOR PLATE

ACME STEEL COMPANY, Dept. NBD-81
135th St. & Perry Ave., Chicago 27, Ill.



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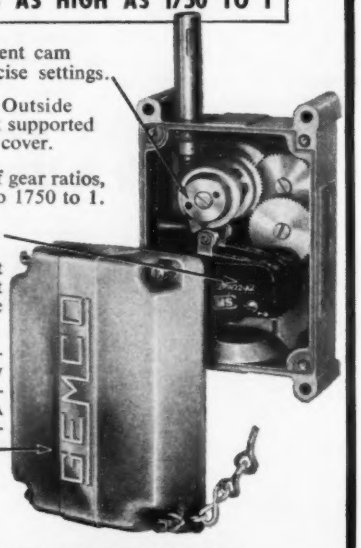
simplify complex linkage and control problems...

GEMCO
ROTARY LIMIT SWITCHES

GEAR RATIOS AS HIGH AS 1750 TO 1

- Quick, independent cam adjustment. Precise settings.
- Easy mounting. Outside holes. Cam block supported independently of cover.
- Broadest range of gear ratios, from 5 to 1 up to 1750 to 1.
- Easy to wire. Snap-action switches in direct line with conduit connection. More inside space.
- Tough, impact resistant Fibralloy case! (Also available in NEMA type 4 and 7 enclosures.)



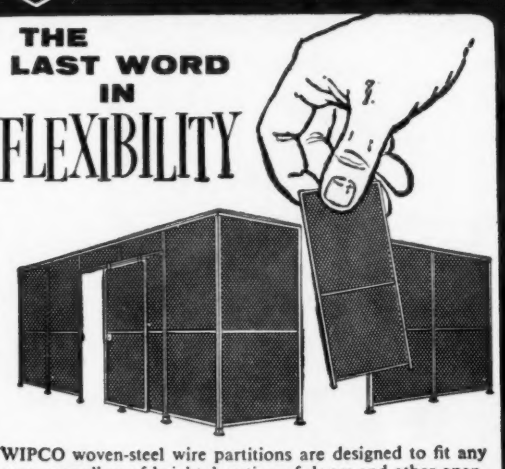
WRITE FOR BULLETIN 254

GEMCO ELECTRIC COMPANY
25685 West Eight Mile, Detroit 40, Mich.

For more details circle **NED-83 H1** on enclosed inquiry slip

WIPCO WIRE PARTITIONS

THE LAST WORD IN FLEXIBILITY



WIPCO woven-steel wire partitions are designed to fit any area, regardless of height, location of doors and other openings, etc. Easy and economical to erect, your own men can put them up without outside help! Use them over and over again, salvaging each individual section for use in new erections. Available in *standard* sections from stock—or *custom-built* for any requirement, WIPCO partitions are easy to paint and clean—require little or no maintenance! For increased efficiency and flexibility at lower cost, get the facts on WIPCO wire partitions!

Write Today for Bulletin P-55!
WIRE & IRON PRODUCTS INC.
1727 SIXTEENTH STREET, DETROIT 16, MICHIGAN

For more details circle **NED-84 H1** on enclosed inquiry slip

THE EASY WAY TO MOVE
AIR • DUST • FUMES • MATERIALS

This NEW catalog shows you how—

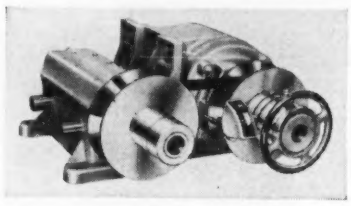
Made of strong, durable coated fabrics, wire reinforced, and in sizes from 1¼" to 36" i.d. Flexaust hose and Portovent duct have been used for thousands of money-saving installations since 1938. New Catalog 605 gives detailed selection, price and installation data.

Send Today for Your FREE Copy

THE FLEXAUST COMPANY
DEPT. NEDS, 100 PARK AVE • NEW YORK 17, N • Y •
Distributors in all principal cities

For more details circle **NED-85 H1** on enclosed inquiry slip

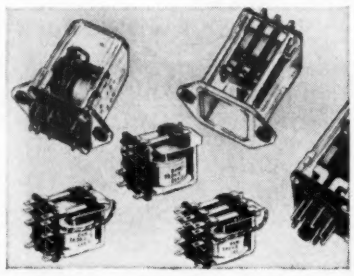
VARIABLE SPEED DRIVE
3, 5, 7½, and 10-hp ratings



Assembled 410 horizontal countershaft variable speed drive may be installed in a floor, wall, or ceiling location, with shafts horizontal or vertical. The motor mounts at either side of the countershaft. Variable speed pulleys provide a range of speed variation up to 8:1. Ratings available are 3, 5, 7½, and 10 hp. • **Lewellen Mfg. Co.**, 1428 Tenth St., Columbus, Ind.

For more details circle **NED-86 H1** on enclosed inquiry slip

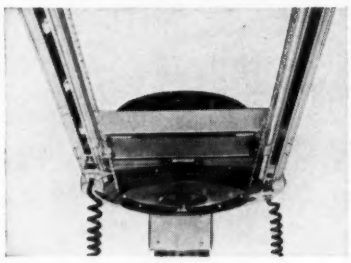
GENERAL PURPOSE RELAYS
switch 5 amp 115-v ac or 32-v dc



Small in size and flexible in application, GR relays have combination solder and push-on terminals. They are offered in one, two, or three-pole configurations with single or double - throw contacts rated 5 amp on 115-v ac or 32-v dc. Coils for operation on up to 440-v ac or 230-v dc are available. The plate version is sensitive and adaptable for electronic circuits such as the plate circuit of vacuum tubes. Latching versions are offered open or enclosed and, by combining two relays, contact combinations as high as six-pole double-throw are possible. • **Ohmite Mfg. Co.**, 3672 Howard St., Skokie, Ill.

For more details circle **NED-87 H1** on enclosed inquiry slip

CONVEYOR POWER SYSTEM
synchronizes outlet movement with movement of a conveyor



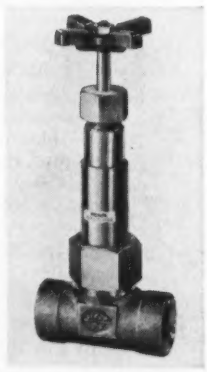
Electrical power outlets whose movement can be synchronized with the movement of a conveyor for mass production assembly and electrical testing are provided by the Feedrail motor driven electric power system. Continuity checks, alignment, and cold test runs can be performed on the move.

System consists of two parallel Feedrail 60 track runs, one electrified and one not, through which current-collector trolleys are uniformly moved by a chain. Trolleys pass through the nonelectrified section, are reversed at each end by a variable speed driven wheel and an idler wheel, and return to starting point in the electrified track section.

Trolley speed is adjustable from 0 to 50 fpm. A ⅓-hp motor provides power for systems up to 50 ft long. Entire system is 18 in. wide and only 3 ft longer than the length of the required electrified section. Capacity is 60 amp, 300 v ac or dc. • **Feedrail Corp.**, 125 Barclay St., New York 7, N. Y.

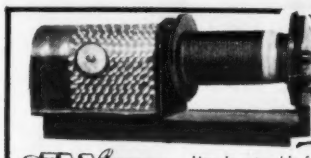
For more details circle **NED-88 H1** on enclosed inquiry slip

BELLOWS SEAL VALVES
for rare and dangerous fluids



Control and complete isolation of rare and dangerous fluids at extreme temperatures and pressures are attained with 473 Series bellows seal valves. They have forged stainless steel bodies with inert arc welded bellows assemblies. Line includes gasketed and completely welded units; minor modifications suit them for exotic fluid uses. Standard units are also suited for high vacuum and cryogenic systems. The HY473 high pressure version is rated at 2000 psi and up to 600° F, while the LY473 low pressure model with replaceable Teflon seats and gaskets is rated at 400 psi and up to 350° F. Maximum allowable test leakage is 0.0005 micron cubic feet per hour. • **Hoke Inc.**, 1 Tenakill Park, Cresskill, N. J.

For more details circle **NED-89 H1** on enclosed inquiry slip



NEW "PALCO" REMOTE CONTROLLED CUSTOM DESIGNED JEEP WINCH

Only 167.50 (CABLE NOT INCLUDED)

Here is a trouble free Jeep Winch that is engineered for years of rugged service. . . dozens of uses – towing, dragging, lifting, dumping, etc. Designed to mount behind the front bumper on any Jeep, Pick-up Truck, 4 x 4 or Gypsy. Operates on 6 and 12 volts . . . will lift 3500 lbs. at 12 Volts D.C.. Has Ball bearing motor. Other models of winches and cranes available – Write for complete specifications and prices.

NEW HYDRAULIC "HI-LO" PRESSURE PUMPING UNITS

Ideal for use in Injection Moulding, Plastic Forming, and all types of Hydraulic Presses.

Will deliver total combined volume of both pumps of 21 GPM, at pressures up to 500 PSI, then delivers output of high pressure pump (4 GPM) at up to 3000 PSI. Both the pumps face mounted to 7-1/2 HP, double-end, 220/440, 3-phase, 60 cycle AC motor. Entire pumping unit mounted on 33 gallon reservoir (available without reservoir). Overall size: 35" long x 18½" wide x 18½" high. Other Hi-Lo units available from 1500 PSI to 3000 PSI. Write for details.

785.00 No. DPR-21-3000

A POWER PACKED PAUL BUNYAN OF VICKERS HYDRAULIC MOTORS
2000 PSI intermittent – 3000 PSI continuous

Use for transmission of rotary power or on automatic screw machines, lathes, winches, etc. Piston type. Displaces 2.41 cu. in./rev. Will take 10.5 GPM at 1000 PSI. Max. operating speed 2200 RPM. *Only 175.00*

SPECIAL VALUE AIR TANKS ALL STAINLESS STEEL. Has an 18,000 cu. in capacity (77 gallons) 45" long x 24" dia. Ideal for Air or Chemicals. Worth $400.00 – No. J-1 *95.00*

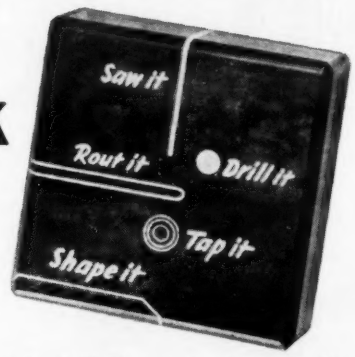
TO ORDER: Send Money Order or a Check. P.O.'s accepted from well rated D&B firms. 1/2 deposit with all C.O.D.'s. All items sent freight or postage collect.

palley's 2263 EAST VERNON AVE., DEPT. NE-81 LOS ANGELES 58, CALIFORNIA

For more details circle **NED-90 H1** on enclosed inquiry slip

what can you do with this

FREE BLOCK of BENELEX?



You can saw it, rout it, drill it, tap it, shape it. It's light—one-sixth the weight of steel. It's workable—machines any way you please. It's genuine Masonite hardboard. Watch this high-density laminate take the $ out of production costs. What *can't* you do with Benelex? Find out for yourself; write today for your free sample. We'll send you a free booklet, too, filled with specifications and suggestions for use. Write to Masonite Corporation, Dept. NED-8, Box 777, Chicago 90, Ill.

MASONITE *shows the way*

®Masonite Corporation—manufacturer of quality panel products for building and industry
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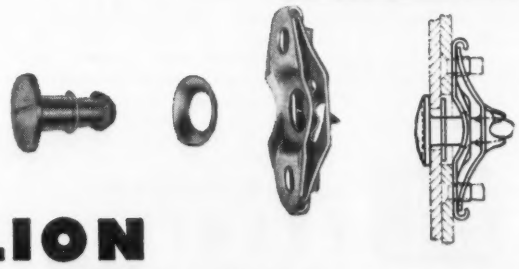
For more details circle **NED-91 H1** on enclosed inquiry slip

one-quarter turn **CLOSED**
one-quarter turn **OPEN**



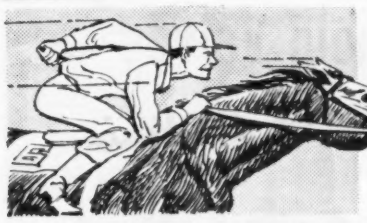
LION ***Quarter-turn* FASTENERS**

Quickly installed . . . for most rugged conditions of shear, tension and vibration . . . meet or exceed Army-Navy-Air Force Specifications MIL-F-5591A (ASG) and have Federal Aeronautics Administration approval. High strength-weight ratio. Full range of sizes and head styles.

Send for your free copy of LION FASTENER CATALOG. Southco Div., South Chester Corp., 245 Industrial Highway, Lester, Pa.

SOUTHCO FASTENERS LION

For more details circle **NED-92 H1** on enclosed inquiry slip



in lapping as in racing,

IT'S THE FINISH THAT COUNTS

Purpose of lapping is to develop finish. If you get the finish you want quickly, easily, economically, that's good. But, it's the finish that counts. Trulap Diamond Compounds are laboratory made to assure purity, uniform dispersion, accurate particle size and concentration, and all other factors affecting job quality. Diamond particles are uniform, blocky shapes for uniform cutting-polishing action—surface gouging "flats" or "spikes" are out, no undersized particles to "pad" the concentration without doing any work. Widest range of laboratory-controlled diamond sizes in the industry, all with added Granulaide* for extra long, effective action. Write for bulletin.

*Trademark of W.T.T. Co. for its surfactant

TRULAP **WHEEL TRUEING TOOL COMPANY**

234-3200 W. Davidson, Detroit 38, Mich.
575 Langlois Ave., Windsor, Ont., Canada

A research development of Wheel Trueing Tool Company. Over 50 years a leader in diamond products.

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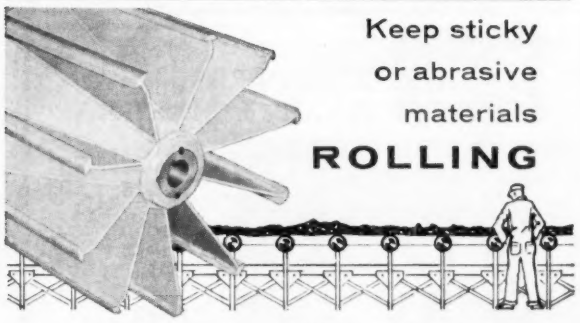

Keep sticky or abrasive materials **ROLLING**

WITH VAN GORP

Turn-Clean® PULLEYS

Van Gorp Turn-Clean pulleys are of all-welded steel construction, with gussets continuously welded to wings and hub to insure maximum ruggedness and top self-cleaning performance under severe working conditions. Dodge Taper Lock bushings permit simple, sure installation. In addition, only Van Gorp offers a selection of 3,000 pulley sizes with four face selections, and custom manufacture to exact specifications. All popular pulley sizes are stocked for prompt shipment. Write for new brochure on 7 ways to cut costs with Van Gorp Turn-Clean pulleys and a free sample of the new "Rubber Lagged" Turn-Clean pulley — the answer to tough drive pulley problems.

VAN gorp MFG., INC.
Dept. NED, Pella Iowa

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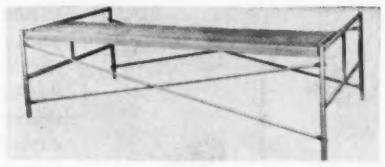
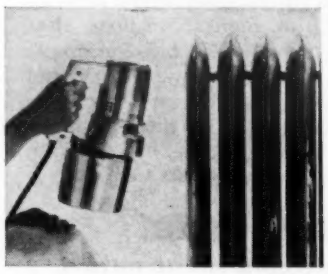
KNOCKDOWN PLATFORM
supports up to 1450-lb loads



Rigid channels, welded construction, box frame, and expanded metal decking contributed to the utility and strength of this Safload steel work platform. It will support a concentrated load of 1450 lb or a uniform loading of 480 lb per lineal ft. It is made in 6, 7, 8, and 10-ft lengths, 2-ft width, and with painted or galvanized finish. It can be knocked-down for handling and storage. • **Safway Steel Products, Inc.**, 6228 W. State St., Milwaukee 13, Wis.

▲ For more details circle **NED-96 H1** on enclosed inquiry slip ▲

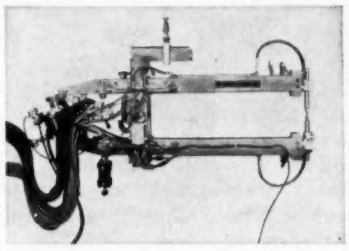
SELF-CONTAINED PAINT GUN
easily cleaned type has other uses



Enamel, semigloss, flat, oil base, water soluble, rubber base, inside, and exterior paints are applied by this paint gun, ejected by centrifugal force through an adjustable opening. The user can spray anything from a 1/4-in. line to a 15-in. swath by moving a lever. Gun's rotary action does not use air pressure, and incorporates no nozzles or needles. Spraying of insecticides, disinfectants, wax, and sealants is among its other uses. It is quickly cleaned by placing a cleaning agent in the reservoir and running with the opening closed. Colors are also quickly changed. Powered by a two-speed G-E motor, it sells for $49.95. • **Sloan-Ashland Co.**, 1454A Merchandise Mart, Chicago, Ill.

▲ For more details circle **NED-97 H1** on enclosed inquiry slip ▲

THREE-PHASE WELD GUN
5-ft throat for spot and seam work



Interchangeable components for both spot and roll spot seam welding of stainless steel alloys from 0.001 to 0.125 in. thick are used with this three-phase portable welding gun which has a 5-ft throat depth. Welds meet Air Force specs. A dual system of linkages enable the gun to handle a broad range of materials. The calibrated die spring arrangement assures accurate control and positive vertical tip alignment. The throat height is 18 in., and the maximum forge pressure is 4000 lb. • **Progressive Welder & Machine Co.**, 915 Oakland Ave., Pontiac, Mich.

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AURAND
CLEANING TOOLS
ELECTRIC OR PNEUMATIC MODELS

Surfaces are cleaned quickly with AURAND on the job. Hardened steel cutters zip away stubborn accumulations from iron, steel, brick, concrete. Adjustable depth shoe protects surface . . . assures uniform cleaning. No special skill required. Renewable cutter heads. Two sizes in both electric and pneumatic models. Lightweight.

AURAND MFG. & EQUIPMENT CO.
1322 Ellis St., Cincinnati 23, Ohio
Canadian Distributor:
E. B. Peerless, Ltd.
5934 Fraser St., Vancouver 15, B. C.

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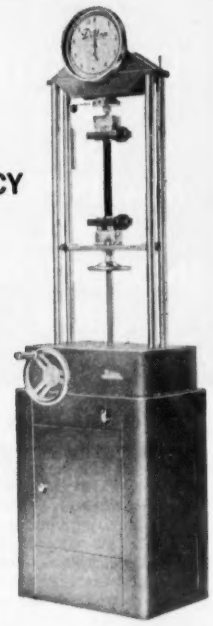
AVOID COSTLY ERRORS WITH GUARANTEED Dillon ACCURACY WHEN YOU...



TEST...
In TENSILE • COMPRESSION
TRANSVERSE • SHEAR

MEASURE...
In TENSION OR COMPRESSION

OR

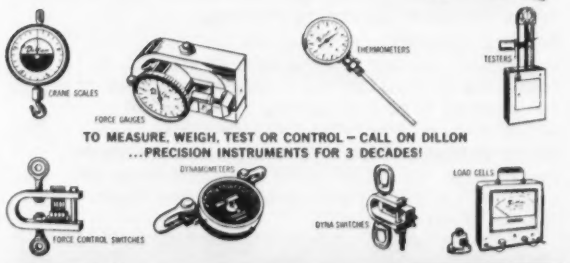
CONTROL
TEMPERATURE
(FAHRENHEIT-CENTIGRADE)

Bring ASTM & Federal Accuracy into your own shop — at a fraction of outside service charges!

YOU DON'T HAVE TO BE AN EXPERT to secure EXPERT results with Dillon instruments. These precision products are calibrated with *Certified* test weights, elastic proving rings and testing machines whose accuracy is directly traceable to the U.S. Bureau of Standards! Every desirable feature is included. Seldom used, expensive extras are eliminated. In the laboratory or on the production line, Dillon equipment will provide you with *vital* test data exactly as you need it—*when* you need it!

PLEASE BE SURE TO MENTION PRODUCT IN WHICH YOU ARE *SPECIFICALLY* INTERESTED. A COPY OF OUR *GENERAL* CATALOG ON *OTHER* DILLON PRODUCTS WILL BE INCLUDED.

235



TO MEASURE, WEIGH, TEST OR CONTROL – CALL ON DILLON
...PRECISION INSTRUMENTS FOR 3 DECADES!

W. C. Dillon & COMPANY, INC.
DEPT. 119, 14578 KESWICK STREET, VAN NUYS 78, CALIFORNIA
Representatives in All Principal Cities

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NOW: SURGICAL-QUALITY LIGHTS

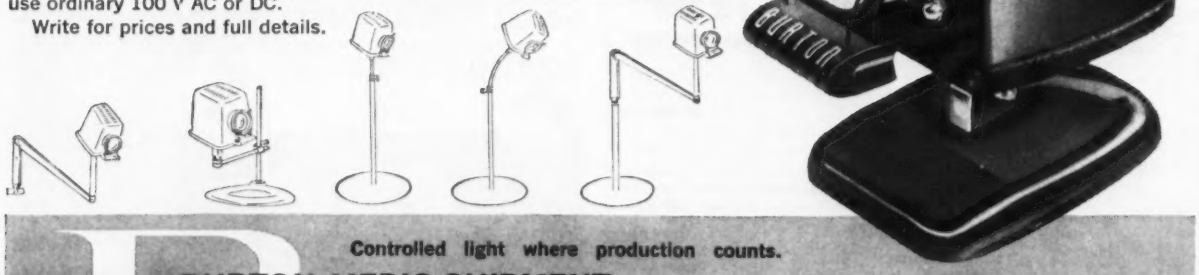
FOR INDUSTRIAL INSPECTION

Burton Fresnel lights are now available for general industry. Well-known to the medical profession for over 30 years, these lights have a precision lens that adjusts to either a concentrated spotlight or a powerful flood of color-corrected, heat-free light.

For miniature assembly work, for clean rooms, for demanding R&D, for close tolerances — any situation that requires optimum immediate-area illumination without eyestrain — Burton lights provide the perfect answer.

Desk-top Model 1200 is shown at right. Model 1203 has a 13" stand. Model 1277-10 has a clamp-on Fleximatic arm for easy three-dimensional adjustment. Gooseneck and floorstand models available too. All these lights use ordinary 100 V AC or DC.

Write for prices and full details.



Controlled light where production counts.

BURTON MEDIC-QUIPMENT
Division of Burton Manufacturing Company
1918 E. Imperial Highway, El Segundo, Calif.

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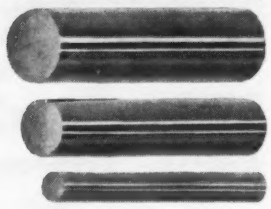
DELUXE
PLUG GAGES by DUNDICK

ONLY $1.25 per gage in lots of 10 or more in your choice of sizes



THE GAGE WITH A MILLION USES

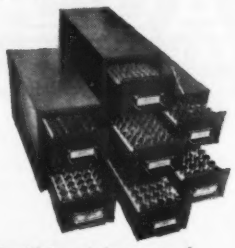
Core Pins • Gages • Perforators • Set-up Pins • 2" Long

721 sizes—from .030 to .750

FREE CABINETS

Free cabinets included at no extra cost with each complete or sectional order of the new Dundick DeLuxe Gages.

- Each cabinet complete with lacquered hardwood block. Contains properly identified and sized holes to hold pins.

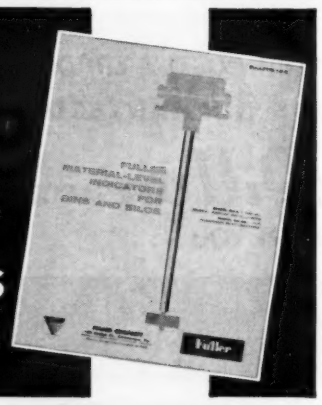


GUARANTEED ACCURACY within a tolerance of plus or minus fifty millionths.

DUNDICK TOOL WORKS, INC. 3410 West 31st St. Chicago 23, Illinois

For more details circle **NED-101 H1** on enclosed inquiry slip

COMPLETE STORY ON MATERIAL-LEVEL INDICATORS ...FREE!



Bulletin describes models for general purpose and hazardous dust locations in bins and silos

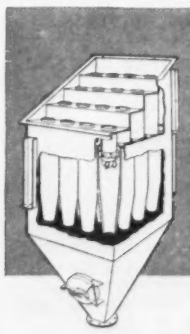
Write for this bulletin with illustrations, descriptions and specifications on Fuller Material-Level Indicators.
They show and maintain the level of materials in bins or silos, by starting or stopping the equipment-drive motors of feeders, valves, elevators and conveyors when a predetermined material level is reached.
They assure true indication, regardless of surges or settling of materials—also long service without attention or repairs.
Write for Bulletin I-5-C. 2616 I-8

FULLER COMPANY
154 Bridge Street
Catasauqua, Pa.

Fuller — pioneers in harnessing AIR

SUBSIDIARY OF GENERAL AMERICAN TRANSPORTATION CORPORATION
Offices in Principal Cities Throughout the World
See Chemical Engineering Catalog for details and specifications

For more details circle **NED-102 H1** on enclosed inquiry slip



Traps MORE dust at LESS cost
MULTICLONE mechanical dust collector

If **cyclonic collection** will clear your dust problem—a **Multiclone** by Western Precipitation will do it best.

HIGH EFFICIENCY. Multiple **small**-diameter collectors—a WP-pioneered feature—generate greater centrifugal forces for higher separating efficiency.

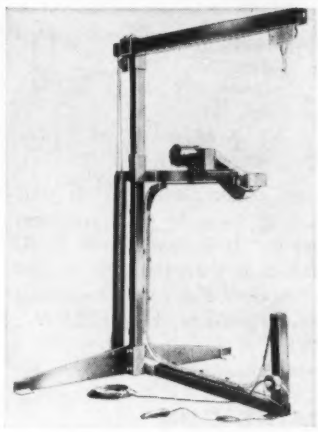
MORE ECONOMY—all along the line. Basic cost, installation, housing, maintenance all are less. No costly, complicated ducting. Highly adaptable units can often be fitted into existing structures. No moving parts—and cast iron tubes and vanes **last.**

MORE INFORMATION? For literature, write Western Precipitation, 1000 West 9th Street, Los Angeles 54, California. (In Canada write 8285 Mountain Sights Avenue, Montreal, P.Q.)

Dust and fume control since 1907
WESTERN PRECIPITATION
DIVISION OF JOY MANUFACTURING COMPANY

For more details circle **NED-103 H1** on enclosed inquiry slip

STEEL STRAPPING FEEDER for diverse package shapes, sizes

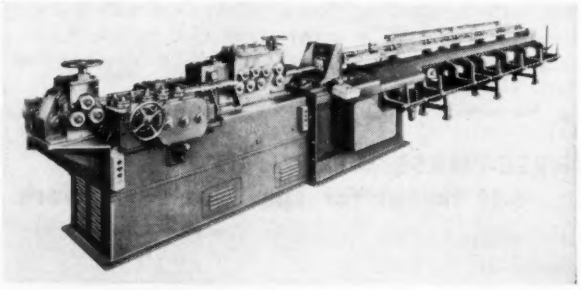


When combined with power strapping tools, the Model SSF strap feeder provides power strapping at moderate equipment cost. A "slipping clutch" permits smooth, safely controlled feeding of steel strapping from dispenser through the machine. A wide range of package shapes and sizes up to a maximum of 72 in. high and 60 in. wide can be handled. Strap from 3/8 x 0.01 in. to 3/4 x 0.035 in. is fed at 4 fps. Three models accommodate conveyor heights up to 17½ in., 18 to 29 in., and above 29 in. high above floor. Featured are foot-operated switch, 1/6-hp 115-v ac motor, adjustable strap chute system, and strap length limit switch. Price is $480, plus $65 for tool suspension equipment. • **Stanley Works,** Stanley Steel Strapping Div., 195 Lake St., New Britain, Conn.

For more details circle **NED-104 H1** on enclosed inquiry slip

SHAPE STRAIGHTENER-CUTTER has low inertia flying shear cutoff and feed speeds of 150 and 195 fpm

Capacity of 5/16 to 13/16-in. square or hex mild steel or equivalent area in flat and shapes up to 2 in. wide is built into the No. 21-FHA Travel-Cut straightening



and cutting machine. Coiled stock passes through a three-roll preliminary straightener which breaks the coil bow, an eight-roll horizontal edge straightener, and an eight-roll vertical finish straightener. The horizontal straightener housing is adjustable for varying stock widths. Adjustment for roll pressure and offset is also incorporated.

Sliding gear feed transmission has feed speeds of 150 and 195 fpm. The high speed flying shear cutoff travels with the rod and cuts while in motion. Low inertia electric trip mechanism is designed for positive clutch tripping at high speed. A length gage is built in. • **Lewis Machine Co.,** 3441 E. 76th St., Cleveland 27, Ohio.

For more details circle **NED-105 H1** on enclosed inquiry slip

GRC tiny parts

Die Cast **ZINC ALLOY** Molded **PLASTICS**

GEAR & PINION GUIDE BOOK
Gives full specs for hundreds of combinations of small 1-pc. die cast zinc alloy gears integral with pinions, shafts, spacers, etc., and variations to specs.

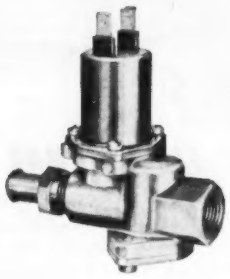
GRC's unique high speed, automated methods give you high quality, uniformly accurate small parts in die cast zinc alloy or molded Delrin, Nylon and other engineering thermo-plastics . . . at low cost. GRC experience and exclusive techniques open the way to new design freedom, new production and assembly shortcuts. Write, wire, phone NOW for samples and detailed bulletins. Send prints for prompt quotation.

NO MINIMUM SIZE! Maximum sizes: Zinc Alloy—2" long, ½ oz. Plastic—1¾" long—.05 oz.

GRIES REPRODUCER CORP.
World's Foremost Producers of Small Die Castings
143 Beechwood Ave., New Rochelle, New York • NEw Rochelle 3-8600

For more details circle **NED-106 H1** on enclosed inquiry slip

Solenoid Valves

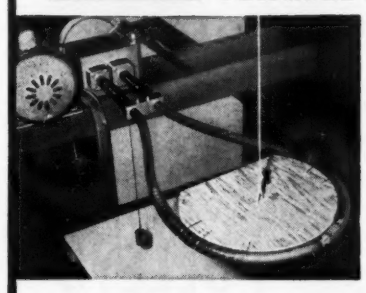


Widely used in the appliance and vending machine industry, these valves have the ability to provide a predetermined liquid flow without regard to pressure. Brass, stainless steel or nylon bodies. Wide selection of mounting brackets, line connections and electrical specifications. Write to American-Standard Controls Division, 5900 Trumbull, Detroit 8, Michigan.

AMERICAN-Standard CONTROLS DIVISION

For more details circle **NED-107 H1** on enclosed inquiry slip

STOW **STANDARD FLEXIBLE SHAFTING**



puts power where you want it!

Flexible shafting permits primary power transmission between shafts which are not collinear, or which have relative motion, allowing greater freedom of design in locating the drive and driven components. Stow standard power drive flexible shafts provide an ideal means of transmitting rotary motion over a curved path, reducing alignment and maintenance problems in power take-off and remote control situations. This eliminates complicated and expensive arrangements, involving the use of telescopic joints, and the danger of exposed moving parts.

If flexible shafting is considered in the early stages of design, many difficult situations can be simplified. To help you with your PTO and remote control problems, Stow offers the services of its specialized engineering staff. For simple, low-cost, efficient, easy to install power drive, investigate Stow standard flexible shafting. For tables of specifications and detailed instructions on how to order, write for Bulletin 5710.

OTHER STOW FLEXIBLE SHAFTS:

Power Drives and Remote Control ... Bul. 570
Flexible Shaft Machines ... Cat. 59
Lightweight Flexible Tool Shafts ... Cat. 59
High Speed Power Drive Shafts ... Bul. 590

STOW MANUFACTURING CO.
26 Shear Street • Binghamton, N. Y.

For more details circle **NED-108 H1** on enclosed inquiry slip

SAVE ON
SAW SHARPENING

If it costs you $25.00 or more a month, let your monthly sharpening bill pay for a FOLEY SAW FILER.

What is your monthly saw sharpening bill? Are you paying $25.00 a month or more, or sharpening saws by hand, or probably using them when too dull? If so, a Foley Saw Filer will soon pay for itself in your plant. With the Model 200 Foley Automatic Saw Filer you can sharpen both "combination" and crosscut circular saws, band saws and hand saws. No experience needed to turn out precision sharpening with a Foley. Increase your sawing production, improve your work quality, prolong the life of your saws—and let your monthly sharpening bill pay for the Foley.

30-DAY TRIAL OFFER

You may try the new Model 200 Foley Saw Filer in your own shop for 30 days. Write for literature and details of 30-day trial offer.

FOLEY MFG. CO.
3323 N. E. 5th STREET
MINNEAPOLIS 18, MINN.

For more details circle **NED-109 H1** on enclosed inquiry slip

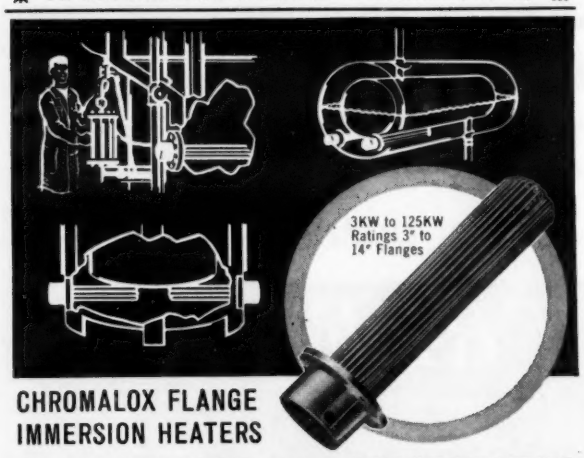
CHROMALOX ELECTRIC
snow-bar

A NEW SNOW-MELTER for asphalt or concrete walks, steps, driveways. Snow-Bar is a new electric snow-melter specially designed for installation in hot asphalt base compounds. Rugged enough to withstand the over 300°F. pouring temperature of hot-pack asphalt. Can be installed over existing gravel, asphalt or concrete. Installs easily, operates rapidly, performs economically. Available in soft-annealed coils or convenient-to-install preformed units. For full specifications, **Write for Data Sheet M60103.**

W-16

CHROMALOX ELECTRIC HEAT
EDWIN L. WIEGAND COMPANY
7509 THOMAS BOULEVARD, PITTSBURGH 8, PA.
PROCESS COMFORT

For more details circle **NED-110 H1** on enclosed inquiry slip



CHROMALOX FLANGE IMMERSION HEATERS

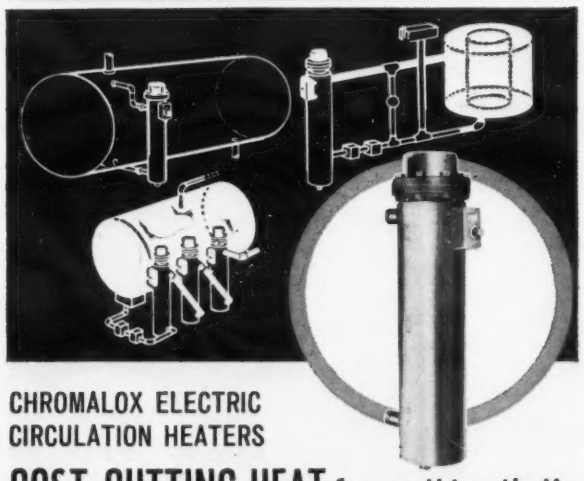
FAST, LOW COST, LEAK-PROOF HEATING for hard-to-contain liquids and gases

Chromalox Immersion Heaters are quick, economical solutions to heating air and other gases, super-heating steam, heating liquids, and heat transfer mediums. They provide exact temperatures and maintain them when used with a thermostat. Standard heaters furnished with 150 psi flanges. Special flanges withstand up to 4500 psi.

W1-22 **Write for Catalog 60 which gives all the facts**

CHROMALOX ELECTRIC HEAT
EDWIN L. WIEGAND COMPANY
7509 THOMAS BOULEVARD, PITTSBURGH 8, PA.
PROCESS COMFORT

For more details circle **NED-111 H1** on enclosed inquiry slip



CHROMALOX ELECTRIC CIRCULATION HEATERS

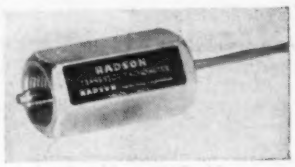
COST-CUTTING HEAT for anything that's **piped.** These compact, automatic, highly efficient jobside heating plants are widely used for heating, preheating and superheating. Temperatures to 1200°F and above easily, readily reached, accurately maintained. Heaters are quickly installed, with built-in thermostats and will give long dependable service with minimum attention. Many standard models in stock for immediate shipment. Special models built to meet special corrosive conditions and high-capacity requirements. **Send for Bulletin PE502.**

W1-13

CHROMALOX ELECTRIC HEAT
EDWIN L. WIEGAND COMPANY
7509 THOMAS BOULEVARD, PITTSBURGH 8, PA.
PROCESS COMFORT

For more details circle **NED-112 H1** on enclosed inquiry slip

TACHOMETER GENERATOR provides 2 v minimum at 500 rpm



Use of Radson transistor tachometers with diesel engines and other mechanical rotation machinery is made possible with this tachometer generator which will operate safely in explosive ambients. Magnetically-induced output provides 2 v minimum at 500 rpm. Unaffected by moisture or oil, unit has a one-piece steel rotating shaft with self-aligning Delrin bearing that needs no lubrication. Fitting is standard S.A.E. 7/8 in. with choice of shaft size. Extruded aluminum case measures only 1 1/8 in. (hex) by 2 5/32 in. • **Radson Engineering Corp.**, Macon, Ill.

For more details circle **NED-113 H1** on enclosed inquiry slip

ORBITAL SANDER for continuous production sanding

Ball bearing construction of Model 992 orbital sander allows continuous production sanding for either fine finishing or removal of paint and varnish. Weighing only 5 1/2 lb, sander is easy to use for overhead and vertical work, and will sand flush in corners and right up to vertical surfaces. Auxiliary knob is removable. Sander is powered by a 2-amp motor and has a 3 5/8 x 7-in. sanding pad. Price is $49.95. • **Skil Corp.**, 5033 Elston Ave., Chicago 30, Ill.

For more details circle **NED-114 H1** on enclosed inquiry slip

STOCK GEARS in the 3 to 20-pitch range

Off-the-shelf delivery of a number of sizes of 3 to 20-pitch 20-degree-pressure angle stock gears is now offered. They are reportedly stronger and have higher horsepower ratings than equivalent sizes of 14 1/2-degree gears. Types will be produced in spur, bevel, straight and spiral miter sets, and helical and worm gear sets. Materials will be high carbon steel, alloy cast iron, and nickel bronze. Nonmetallic spur gears will be offered for low-load high-speed applications. These gears operate quietly and need no lubrication. • **Morse Chain Co.**, S. Aurora Street, Ithaca, N. Y.

For more details circle **NED-115 H1** on enclosed inquiry slip

At Your Service...

CHROMALOX FIRST NAME IN ELECTRIC HEAT

r®

CHROMALOX and RADCOR
Sales and Engineering Representatives

W1-20

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For more details circle **NED-116 H1** on enclosed inquiry slip

CHROMALOX "*Redhead*" CARTRIDGE HEATERS

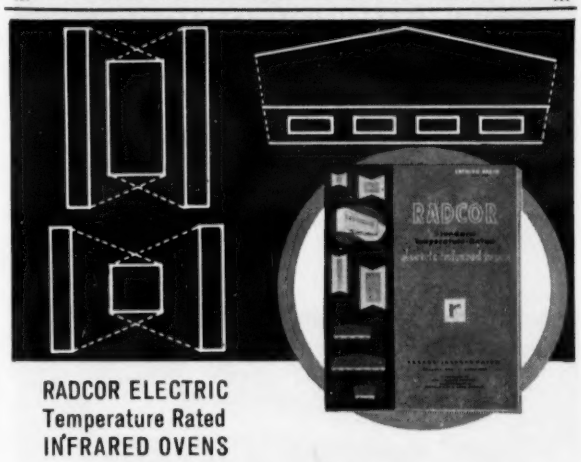
PACK MORE HEAT into the same space.

You just can't beat these rugged, highly efficient cartridge heaters for heating dies, platens, molds and similar types of processing equipment. You get up to 5 times more heat power than with standard cartridges. And because heat recovery is much faster you can step up your cycles. Chromalox "Redheads" are available in a wide range of diameters, lengths and ratings to give you the output to meet every spot-heating job. **Write for Bulletin PC101.**

W1-14

CHROMALOX ELECTRIC HEAT
EDWIN L. WIEGAND COMPANY
7509 THOMAS BOULEVARD, PITTSBURGH 8, PA.
PROCESS COMFORT

For more details circle **NED-117 H1** on enclosed inquiry slip



RADCOR ELECTRIC Temperature Rated INFRARED OVENS

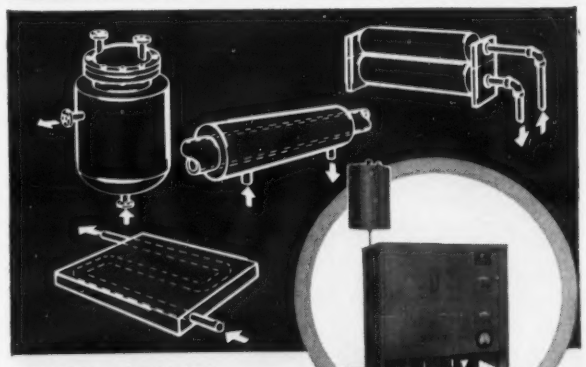
Temperature-Rating FITS THE OVEN TO THE JOB — Exactly!

Now—design curing, baking and drying ovens to your space and performance requirements in temperature ranges from 235° F. to 660° F. New Radcor Infrared Oven Catalog shows you how to save money, get the exact performance you need, cut costs and, incidentally, take the mystery out of oven selection.

R 3 **Write for Radcor Catalog BRG-115 Today!**

RADCOR, INC.
DEPT. A—100 CHURCH STREET
BRADNER, OHIO
ELECTRIC HEATING SYSTEMS
A Subsidiary of Edwin L. Wiegand Company

For more details circle **NED-118 H1** on enclosed inquiry slip



RADCOR ELECTRIC FLUID HEAT TRANSFER SYSTEMS

ACCURATE HEAT from single compact **package.** All necessary elements of the Radcor heat-transfer system are in one, all-welded, compact package. Automatic controls generate only as much heat as required, without high pressures.

Heat source is Chromalox Electric Circulation Heater. Temperatures to 600°F, automatically and accurately maintained. Ten different standard models to choose from, in two cabinet sizes ranging from 15,350 to 272,000 Btu's **Write for Bulletin BRP100-1.**

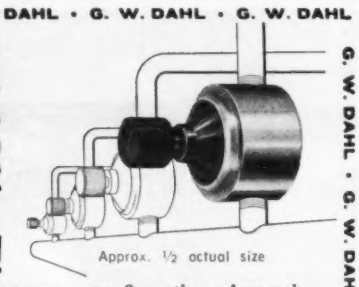
R-2

RADCOR, INC.
BRADNER, OHIO
ELECTRIC HEATING SYSTEMS
A Subsidiary of Edwin L. Wiegand Company

For more details circle **NED-119 H1** on enclosed inquiry slip

G. W. DAHL • G. W. DAHL • G. W. DAHL • G. W. DAHL

LOW COST MINIATURE VALVE FOR TIGHT SHUT-OFF!



Dahl FLEXI-PHRAGM packless diaphragm valve ideal for instrument air and other gas and liquid services . . . for isolating and/or testing the pneumatic circuit in process control loops.

Resilient diaphragms (Neoprene, Viton A or Buna) withstand deformation by slurries, trapped impurities (unfiltered service) . . . still provide positive shut-off. Diaphragms resume original configuration when valve is opened and particles washed away . . . even after prolonged closures.

Rated to 500 psig and 180°F. Closing torque only 10 lb.-in. (as rated) in dead end service. Brass bodies with ⅛" or ¼" NPT connections. Panel mounts available.

REQUEST complete data on this low cost, high performance valve. G. W. Dahl Co., Inc., 88 Tupelo St., Bristol, R. I.

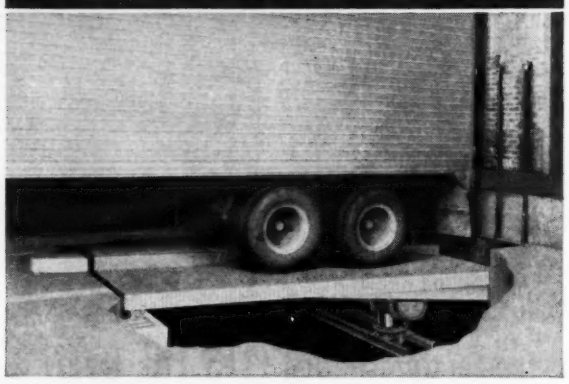
G. W. DAHL CO., INC.
SPECIALISTS IN COMPACT VALVES AND CONTROLS

G. W. DAHL • G. W. DAHL • G. W. DAHL • G. W. DAHL

For more details circle NED-120 H1 on enclosed inquiry slip

NEW, IMPROVED MODEL

Rotary® Truck Leveler



Now with 16′ platform . . . 3′ vertical travel

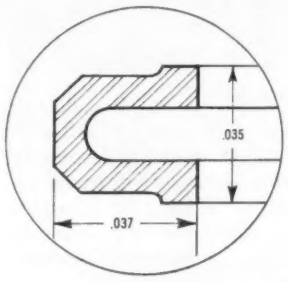
A longer platform and greater vertical travel equip the Rotary Truck Leveler to handle modern trailers with high beds and long rear overhang . . . as well as all other highway carriers. Using economical hydraulic power, the Rotary Truck Leveler raises or lowers truck/trailer to bring bed to dock level for fastest, safest loading and unloading. Write for Catalog RE-800.

Rotary Lift Company—Division of Dover Corporation
1091 KENTUCKY, MEMPHIS 2, TENN.

For more details circle NED-121 H1 on enclosed inquiry slip

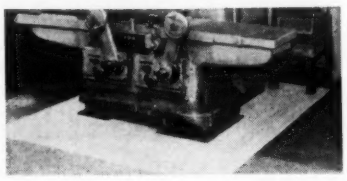
METAL STATIC SEAL
for miniature valves and actuators

Zero leakage of exotic liquids and gases is obtained with the HS 174 miniature metal static seal at temperatures from −450 to 2000° F and pressures to 20,000 psi. It has a cross section of only 1/32 in. square and is used in valves and actuators where space is at a premium. Sizes from ¼ to 1½ in. OD have a U-section normally made from hardened 17-4PH bar stock and silver plated. Other materials and platings are to specification. Sealing is accomplished with only a light flange loading. • **Haskel Engineering & Supply Co.**, Haskel Seals Div., 1236 S. Central Ave., Glendale 4, Calif.



For more details circle NED-123 H1 on enclosed inquiry slip

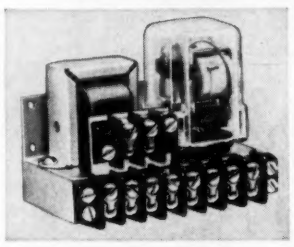
HEAVY EQUIPMENT GROUT
will not shrink or crumble



Machines can be relocated in a single day when Evr-Tite Grout is used. This self-leveling material can be used to make a base for heavy equipment and is ready for the machine in 4 to 6 hr. Once poured, it will not shrink or crumble under the heaviest load. It has high impact and abrasion resistance, and is waterproof and self-bonding. It is offered in 225 and 300-lb drums. • **Monroe Co.**, 10723 Quebec Ave., Cleveland 6, Ohio.

For more details circle NED-124 H1 on enclosed inquiry slip

PHOTOELECTRIC SCANNER
system relay works from photocell



Objects with diameters as small as ¼ in. are counted at rates up to 500 per minute by the compact, low cost Type PE-1 photoelectric scanner system. Depending upon the light source and photocell used, operating range can be up to 8 ft. Power type photocell has high infrared sensitivity and a filter to minimize the effect of ambient visible light. It operates a direct current relay without need for any amplifier. Plug-in relay of the 3 x 3¾ x 4-in. unit has two sets of single-pole single-throw 8-amp 115-v ac contacts, one normally-open and one normally-closed. Scanner is furnished with power unit, relay, and choice of miniature or medium range scanning heads. • **Farmer Electric Products Co.**, 2300 Washington St., Newton Lower Falls, Mass.

For more details circle NED-125 H1 on enclosed inquiry slip

If you use tools you should be using

KENNEDY Tool Boxes!

Kennedy — the quality line made with tool users in mind — keep tools handy, save time, reduce losses. Money saving accessories to capital equipment. Kennedy Tool Boxes really last . . . save in the long run.

★ Write for catalog and name of the nearest Kennedy dealer.

CHOOSE FROM MANY MODELS AND COMBINATIONS

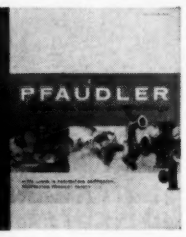
KM35

KENNEDY MANUFACTURING CO.
VAN WERT 10, OHIO

For more details circle NED-127 H1 on enclosed inquiry slip

CORROSION RESISTANT
pipe, valves, fittings

FREE
16-page specifications catalog



Transferring materials to and from your process equipment can offer many opportunities for corrosion to attack your piping hookups.

Not so with Pfaudler® glassed pipe, valves and fittings. With them you can forget rather than fight acid-alkali corrosion. Get all the facts in Bulletin 987. Write to: Pfaudler Division, Dept. NED-81, Rochester 3, N. Y.

PFAUDLER PERMUTIT INC.
Specialists in FLUIDICS . . . the science of fluid processes

For more details circle NED-128 H1 on enclosed inquiry slip

COMPLETE, MOTORIZED, HYDRAULIC POWER PACKAGES

FROM $234 LIST

BASIC MODELS

Basic design (Series PKM6)—requiring minimum investment—has adjustable overload relief valve for pressures to 1500 psi.

With Vickers motorized hydraulic packages you get these advantages:

- Easy installation—no alignment of components.
- Choice of electric motors—1 to 3 hp—single or three phase—TEFC.
- Flows to 5 gallons per minute.

9809 FOR MORE DETAILS WRITE FOR BULLETIN 61-82.

VICKERS® VICKERS INCORPORATED
DIVISION OF SPERRY RAND CORPORATION
Machinery Hydraulics Division
ADMINISTRATIVE and ENGINEERING CENTER
Department 1400 • Detroit 32, Michigan

For more details circle NED-122 H1 on enclosed inquiry slip

COMPLETE, MOTORIZED, HYDRAULIC POWER PACKAGES

FROM $256 LIST

MANUAL VALVE MODELS

Manual valve models (Series PKM1)—have choice of tamper-proof overload relief valves ranging from 250 to 1500 psi and 1, 2 or 3 manually operated valves.

With Vickers motorized hydraulic power packages you get these advantages:

- Easy installation—no alignment of components.
- Choice of electric motors—1 to 5 hp—single or three phase—TEFC.
- Flows to 8 gallons per minute.

9810 FOR MORE DETAILS WRITE FOR BULLETIN 61-82.

VICKERS® VICKERS INCORPORATED
DIVISION OF SPERRY RAND CORPORATION
Machinery Hydraulics Division
ADMINISTRATIVE and ENGINEERING CENTER
Department 1400 • Detroit 32, Michigan

For more details circle NED-126 H1 on enclosed inquiry slip

COMPLETE, MOTORIZED, HYDRAULIC POWER PACKAGES

FROM $375 LIST

SOLENOID DIRECTIONAL VALVE MODELS

Solenoid valve models (Series PKS1)—for remote control—with 1 or 2 four-way valves and 1500 psi adjustable relief valve.

With Vickers motorized hydraulic power packages you get these advantages:

- Easy installation—no alignment of components.
- Choice of electric motors—1 to 5 hp—single or three phase—TEFC.
- Flows to 8 gallons per minute.

9811 FOR MORE DETAILS WRITE FOR BULLETIN 61-82.

VICKERS® VICKERS INCORPORATED
DIVISION OF SPERRY RAND CORPORATION
Machinery Hydraulics Division
ADMINISTRATIVE and ENGINEERING CENTER
Department 1400 • Detroit 32, Michigan

For more details circle NED-129 H1 on enclosed inquiry slip

Ask for Catalog F-915 Rev. Contains complete specifications for all types of industrial chain link fence, posts, gates and fittings. 68 pages. 8424

▲ For more details circle **NED-130 H1** on enclosed inquiry slip ▲

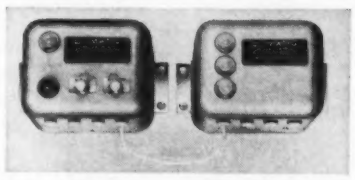
Ask for Catalog WR-722. Contains general characteristics of wire rope, recommendations on proper rope to use for many industrial applications, instructions for lubrication, breaking strengths and safety factors, and information on wire rope slings and fittings. 32 pages. 8421

▲ For more details circle **NED-131 H1** on enclosed inquiry slip ▲

Ask for Catalog S-500 Rev. Contains list of materials, physical properties, design formulas, and complete size specifications for helical extension, compression and torsion springs. 48 pages. 8415

▲ For more details circle **NED-132 H1** on enclosed inquiry slip ▲

PRESS OVERLOAD DETECTOR
releases press clutch within 1 cycle



This adjustable press overload detector (right) is available as part of the Di-Matic system which instantly disengages a press clutch in case of misfeed, stock buckling, material pile-up, or end of a coil. The accessory releases the clutch solenoid within one cycle following an overload. Sensitivity can be decreased with the increase of the material thickness. Unit is used with any basic model Di-Matic press control (left) of the 100 or 200 Series. Controls operate on any size press, with either friction or mechanical clutch. • **Di-Matic Controls, Inc.,** 100 Beadel St., Brooklyn 22, N. Y.

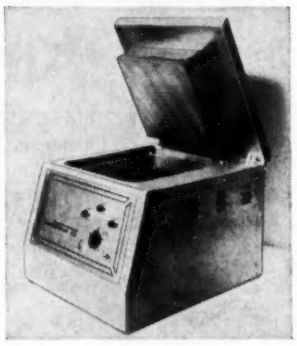
▲ For more details circle **NED-133 H1** on enclosed inquiry slip ▲

REINFORCED COMPUTER TAPES
thicknesses from 0.002-0.0045 in.

Programming applications with high speed photoelectric or electromechanical readers are uses for six new reinforced, opaque computer tapes. Included is a thin tape of which 2700 ft will fit on a standard 10-in. reel. Six Mylar tapes in thicknesses from 0.002 to 0.0045 in. have high tear and tensile strengths, plus dimensional stability, permitting thousands of readings without breaks or malfunction caused by deformation of code signal or feed holes. All are opaque to infrared and visible light. Splice-free continuous rolls are available in 11/16, 7/8, and 1-in. standard widths with a 2-in. ID core. Other widths and colors are considered special orders. • **Arvey Corp.,** Lamcote Div., 3500 N. Kimball Ave., Chicago 18, Ill.

▲ For more details circle **NED-134 H1** on enclosed inquiry slip ▲

PARTS CLEANER
uses pure solvent vapors



Transistors, electronic components, printed circuitry, instruments, machined parts, and lenses are among the products that are efficiently cleaned in the Vatron 120 bench model parts cleaner. One-step "vatronic" cleaning uses pure solvent vapors with a simultaneous flushing action of pure solvent condensate that gently rains down on the work from the Solvent Shower lid condenser of the unit. Work never comes in contact with contaminated solvent. Two quarts of Freon TF, trichlorethylene, or methylene chloride is boiled in the cleaning chamber to create vapors. Control panel includes pilot light, dual heat switch, and bell timer. • **Currier Co.,** 511 O'Neill Ave., Belmont, Calif.

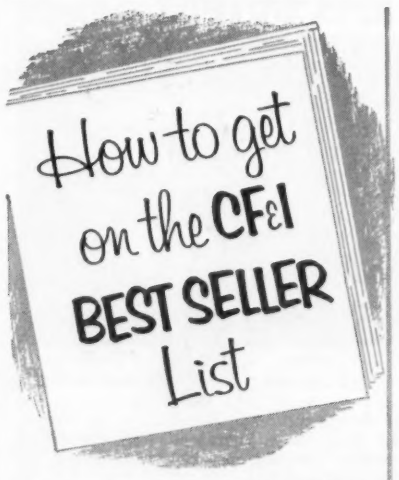
▲ For more details circle **NED-135 H1** on enclosed inquiry slip ▲

Ask for Catalog MS-606. Contains standard specifications, installation instructions, and proper guiding techniques for most commonly-used woven wire process-conveying belts. 16 pages. 8417

▲ For more details circle **NED-137 H1** on enclosed inquiry slip ▲

Ask for Catalog W-201. Contains step-by-step description of the manufacture of wire from ore to finished product, plus specifications for flat and shaped wire, manufacturers' low carbon coarse wire, and high and low carbon fine and specialty wires. Describes over 90 different types of wire. 76 pages. 8428

▲ For more details circle **NED-138 H1** on enclosed inquiry slip ▲



In addition to the steel products listed on this page, CF&I makes others... like industrial wire cloth, galvanized steel strand, vibrating screens, overhead conveying systems, wire hardware products and many more. All CF&I products are described in our *Principal Products Catalog G-50 Rev.* To get the CF&I catalog of your choice, contact any of the sales offices listed :

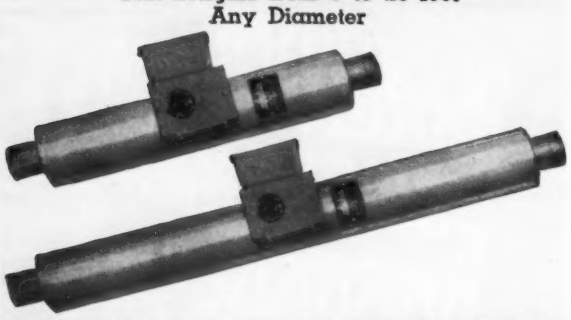
ARIZONA—Phoenix, 201 S. 28th St., P. O. Box 12036, BRidge 5-6231 • **ARKANSAS**—Little Rock, Room 745, Tower Bldg., FRequent 4-4875 • **CALIFORNIA**—Los Angeles, 2444 Saybrook Ave., OVerbrook 5-8500, Oakland, 1080 19th Ave., P. O. Box 270, KEllog 2-2141, Sacramento, 4322 24th St., GLadstone 2-1057, San Francisco, 357-58 Russ Bldg., 235 Montgomery St., SUtter 1-6377, San Leandro, 425 Hester St., NEptune 6-1959 • **COLORADO**—Denver (General Offices) Continental Oil Bldg., CHerry 4-0833, Pueblo, P. O. Box 316, LI 3-2470 • **GEORGIA**—Atlanta, 934 Avon Ave., S. W., PL 8-5561 • **ILLINOIS**—Chicago, 3838 W. 51st St., LUdlow 5-8000 • **KANSAS**—Wichita, 811 East 10th St., HObart 4-4305 • **MASSACHUSETTS**—Boston, 15 Fourth Ave., Needham Heights 94, HIllcrest 9-0200, Palmer, P. O. Box 232, ATlas 3-3461 • **MICHIGAN**—Detroit, 1915 First National Bldg., WOodward 1-4516 • **MISSOURI**—North Kansas City, 2330 Burlington Ave., BAltimore 1-2565 • **MONTANA**—Billings, 501 North 27th St., P. O. Box 1763, AL 2-6336 • **NEW JERSEY**—Clifton (New York District Sales) 40 Colorado St., GRegory 2-7300 • **NEW MEXICO**—Albuquerque, 2824 Central Ave., S. E., CHapel 3-5526, Farmington, Shiprock Highway, P. O. Box 129, DAvis 5-6802 • **NEW YORK**—Buffalo, 361 Delaware Ave., TL 6-5600, New York (Executive Offices) 575 Madison Ave., MUrray Hill 8-5400 • **OKLAHOMA**—Oklahoma City, 200 Cameron Bldg., 2915 Classen Blvd., JAckson 5-5527, Tulsa, 4422 West 49th St., P. O. Box 41, Red Fork Station, HIckory 6-6681 • **OREGON**—Portland, 3150 N. W. 31st Ave., CApitol 8-7311 • **PENNSYLVANIA** — Philadelphia, 225 West Erie Ave., GArfield 5-4000 • **TENNESSEE**—Chattanooga, Sherman and Reilly, P. O. Box 7056, AMherst 7-4427 • **TEXAS**—Amarillo, 1008 Fisk Bldg., P. O. Box 2371, DRake 2-6717, El Paso, 803-5 Bassett Tower Bldg., P. O. Box 2006, KE 2-7211, Ft. Worth, 2413 Continental National Bank Bldg., EDison 6-9881, Houston, 6609 Supply Row, P. O. Box 9367, WAlnut 6-1776, Odessa, 2119 West Murphy St., P. O. Box 1447, FEderal 2-4332 • **UTAH**—Salt Lake City, 212 West 13th South St., P. O. Box 1738, INgersoll 7-5438 • **WASHINGTON**—Seattle, 2200 Sixth Ave., S., MAin 4-4881, Spokane, 4320 East Trent Ave., KEystone 5-2071. 8420

The Colorado Fuel and Iron Corporation

▲ For more details circle **NED-136 H1** on enclosed inquiry slip ▲

Sta-Warm ELECTRICALLY HEATED PIPE AND TUBING

Unit Lengths from 1 to 20 feet
Any Diameter



DESIGNED FOR QUICK, EFFICIENT TRANSFER OF HEATED PITCH, ASPHALT, PLASTICS, WAXES, PARAFFIN, RESINS, ADHESIVES, POTTING COMPOUNDS OR LOW MELTING POINT SOFT METALS WITHOUT HEAT LOSS.

Sta-Warm engineers and builds a complete line of rigid pipe and tubing for use with heated melting or pressure tanks. Black or stainless steel, brass, bronze, copper, aluminum, nickel and Monel available.

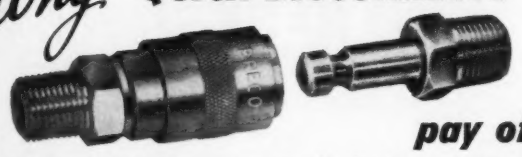
WANT A CATALOG? WRITE TODAY.

"If You Can Wrap a String Around It, Sta-Warm Can Heat It for You."

Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO
A Subsidiary of Wakefield Corporation

For more details circle **NED-146 H1** on enclosed inquiry slip

Why QUICK DISCONNECTS pay off



Because Quick Disconnects are the **fastest, easiest** and **most economical** means of making or breaking a connection. They pay for themselves by reducing costly set-up time and maintenance costs.

A simple, one-hand operation—**connect or disconnect lines instantly.** No turning or twisting. Eliminates costly "wrench type" connections. Step-up production.

The Series "D" (2D & 4D) Couplings are **interchangeable** with all popular makes. A small, rugged lightweight coupling for air, liquids and gases. Designed for instrumentation, aircraft and industrial uses. Construction and performance meets Military Specification MIL-C-4109A.

Patented **PUSHOMATIC** locking forms a positive high-pressure and leak-proof connection. Buna N seals assure positive sealing. Shut-off valve in socket stops the flow when disconnected. Working Pressures to 7500 PSI.

The Series "D" has these **advantages**

Automatic Locking — **360° Swivel action**
One-hand Operation — **Integral shut-off valve**
Interchangeability

Four end types in pipe sizes ⅛" through ¾" N. P. T.
Write for Interchangeable Coupling Bulletin 1500.

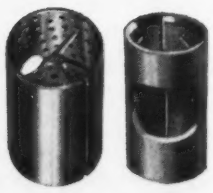
WHERE *Good Connections* COUNT!

PERFECTING SERVICE CO.
332 Atando Ave. Charlotte, North Carolina
Baltimore - Buffalo - Chicago - Cleveland - Camden - Los Angeles
New York - Providence - Montreal - Toronto - Hamilton, Canada

For more details circle **NED-147 H1** on enclosed inquiry slip

PRECISION THRUST WASHERS

FORMED BUSHINGS



...economy and precision in almost endless variety!

Precision Thrust Washers: solid bronze, or bronze-on-steel, one or both faces. Flat, spherical or special shapes. Keyways, tabs, coined oil grooves, any design.

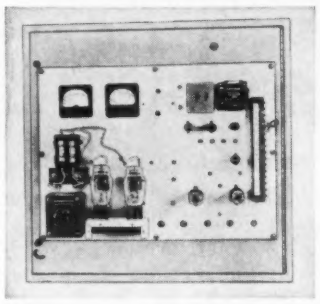
Formed Bushings: solid bronze, steel or aluminum; or bi-metal, steel and bronze, babbitt, copper or aluminum. Oil holes, slots, grooves, whatever your design calls for. Straight, lock or special seams.

For design guide catalogs on both, or for engineering assistance, write Federal-Mogul Division, Federal-Mogul-Bower Bearings, Inc., 11079 Shoemaker, Detroit 13, Mich.

FEDERAL-MOGUL sleeve bearings bushings-spacers thrust washers — DIVISION OF FEDERAL-MOGUL-BOWER BEARINGS, INC.

For more details circle **NED-148 H1** on enclosed inquiry slip

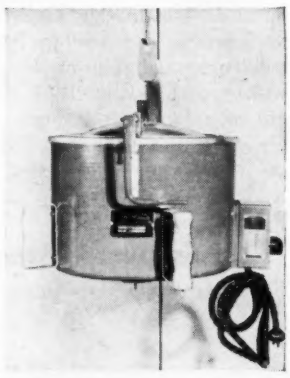
VARIABLE SPEED DRIVES regulate within 0.5 to 2 per cent



Machine tools, drawing and forming equipment, welding positioners, plastics extruders, hoists, conveyors, cranes, dynamometers, and many other types of equipment and systems where speed must be controlled are applications for Tenney variable speed drives. Standard drives automatically hold direct current motor speeds to within 0.5 to 1 per cent of set speed, with a drift of no more than 0.05 per cent with tachometer feedback, and within 1 to 2 per cent and drift to 0.5 per cent with armature feedback. Custom drives are available with regulation as precise as 0.1 per cent. Each drive incorporates an electronic control regulator which continually monitors the load and automatically corrects to hold direct current motor speeds constant. Remote controls are available. • **Tenney Engineering, Inc.**, 1090 Springfield Rd., Union, N. J.

For more details circle **NED-149 H1** on enclosed inquiry slip

HEATED OVERHEAD DISPENSER for wax, plastic, pitch, asphalt



Equipment too large or heavy to move to stationary type dispensing units can be filled by this overhead mounted dispenser by maneuvering it to a position over the object to be filled. It is suspended by a sling and is equipped with two grab handles and a thumb control. Heat is uniformly applied to the entire bottom and 75 per cent of the side walls by a multiple circuit, blanket type heating element. Variable dial thermostats maintain wall temperatures. Dispenser is designed for 115 and 230-v single-phase operation and for 150 to 550° F. Two to ten-quart sizes have a cast aluminum inner pot, and larger sizes up to 50 gal have plain or stainless steel inner tanks. • **Sta-Warm Electric Co.**, 626 N. Chestnut St., Ravenna, Ohio.

For more details circle **NED-150 H1** on enclosed inquiry slip

Precision Adjusting Tools

FREE Briney Mfg. Co.—Single bearing, double bearing, and eccentric tandem types of precision adjusting tools for precision machining are demonstrated in 16-page Catalog 61C. They are applicable to boring quills and to block tooling.

For more details circle **NED-151 H1** on enclosed inquiry slip

GRINDING MILL OUTPUT upped!

Performance proved! Sturtevant Air Separators, in closed circuits with grinding mills, have increased mill capacities from 25 to 300% while lowering power consumption as much as 50% in the cement industry.

Easily adaptable to your materials! Sizes of Sturtevant Air Separators, ranging from 3 to 18 feet dia., can be engineered to fit your specifications.

Cost-cutting features include rugged construction for a lifetime of low down-time service *plus* easy accessibility for quick maintenance (typified by the "OPEN-DOOR" design in other Sturtevant equipment).

Write for bulletins on Sturtevant Air Separators and other custom-built equipment listed below. STURTEVANT MILL CO., 114 CLAYTON ST., BOSTON 22, MASS.

STURTEVANT
Dry Processing Equipment
The "OPEN-DOOR" to *lower* operating costs over *more* years
CRUSHERS • GRINDERS • MICRON-GRINDERS • SEPARATORS
BLENDERS • GRANULATORS • CONVEYORS • ELEVATORS

For more details circle **NED-152 H1** on enclosed inquiry slip

GLO-GLUVS*

REVOLUTIONARY ADVANCEMENT IN INDUSTRIAL WORK GLOVES

Maximum **Visibility** and worker safety are now provided by this new development . . . hands can really be **seen!** A natural for jobs where hand signals are used — night work, etc. Granet GLO-GLUVS have a special vinyl coating which offers maximum resistance to abrasion and solvents — and also provide a firm grip on objects covered with grease or oil. Equip your men with this safe rugged glove.

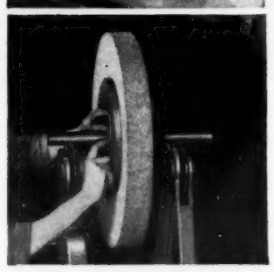
WRITE *Trademark

Write on your letterhead for a free sample pair, or use reader service card for descriptive brochure.

THE GRANET CORP.
26 LORING DRIVE, FRAMINGHAM, MASS.

For more details circle **NED-153 H1** on enclosed inquiry slip

Check balance and runout accurately with Sundstrand accessories



Check Runout Within .0001" Limits on gears, sprockets, pinions, etc. Sundstrand "one-hand control" over all moveable elements leaves other hand free to control rotation of part. Standard bench centers in ten sizes range from 6" x 18" to 24" x 72".

Balance Grinding Wheels, Flywheels, Pulleys, etc., quickly and precisely on any of nine standard sizes of Sundstrand balancing tools. All but No. 5 extra-heavy duty size are portable, can be placed where needed without leveling. Capacities range from 12 to 24,000 lb. No limit on "swings" or distance between centers.

DISTRIBUTORS:
Sundstrand Bench Centers and Balancing Tools offer attractive sales opportunities. Investigate. Details on request.

SUNDSTRAND-AMERICAN BROACH
DIVISION OF SUNDSTRAND CORPORATION
ANN ARBOR, MICHIGAN

For more details circle **NED-154 H1** on enclosed inquiry slip

MICRO SWITCH Precision Switches

Actual size: 1.63 x 1.63 x 3.75

DETECTS WITHOUT TOUCHING ...SENSOR NEVER WEARS OUT!

Honeywell Proximity Switch detects metal within ½-inch of the sensor—over 600 operations a minute!

This Honeywell switch has a sensor that has no moving parts to wear out—a sensor that need *never* be replaced! It has rugged stainless steel face, is sealed against cutting oils, humidity, sand and dust; can operate submerged if necessary. A Proximity Switch can be your answer to difficult switch problems, but be sure it is a product of Honeywell research. Contact the nearby MICRO SWITCH branch office and ask for Data Sheet No. 163.

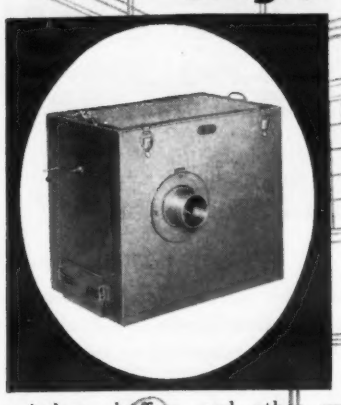
MICRO SWITCH . . . FREEPORT, ILLINOIS . . . A division of Honeywell
In Canada: Honeywell Controls Limited, Toronto 17, Ontario

Honeywell
MICRO SWITCH Precision Switches

For more details circle **NED-155 H1** on enclosed inquiry slip

DUSTKOP "520"
designed to collect dust from single machines

portable — easily installed



DUSTKOP STOPS DUST

Self-contained Dustkop models, like the '520,' are practical and effective in collecting dust from single machines. They're designed specifically for service with surface grinders, tool and cutter grinders, offhand grinders, buffers and other small wheel equipment. These units are also easy to install — are actually portable — and very economical to operate.

Write for illustrated literature
46 models to choose from!

NEW DUSTKOP AUTO SHAKER shakes filters AUTOMATICALLY

AGET manufacturing company ask for details
1396 E. Church Street, Adrian, Michigan

For more details circle NED-156 H1 on enclosed inquiry slip

WHILE THE LIMITED INVENTORY LASTS...YOU CAN HAVE GENERAL CONTROLS QUALITY AND COST SAVINGS TOO. STOCK NOW AGAINST FUTURE REQUIREMENTS WHILE THIS SPECIAL OFFER LASTS.

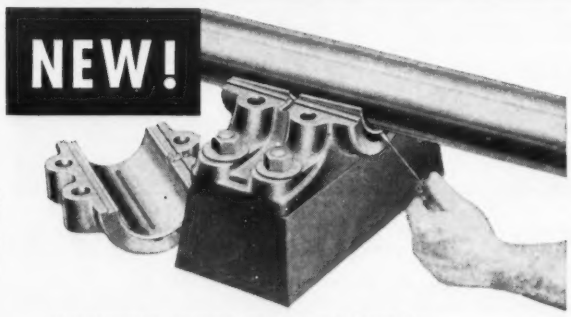
CALL OR WRITE FOR FREE SAMPLE!

CHECK THE YELLOW PAGES FOR YOUR CLOSEST GENERAL CONTROLS FACTORY BRANCH OFFICE.

Automatic Controls for Product or Process
GENERAL CONTROLS
Glendale, Calif. • Skokie, Ill. • Guelph, Ontario, Canada
Nine Plants • 44 Factory Branch Offices Serving the United States, Canada and Western Europe

For more details circle NED-157 H1 on enclosed inquiry slip

NEW!



BRONZE BUSHED BEARINGS WITH PRECISION LINERS THAT ARE REPLACEABLE WITHOUT REMOVING SHAFT OR BEARING BASE!

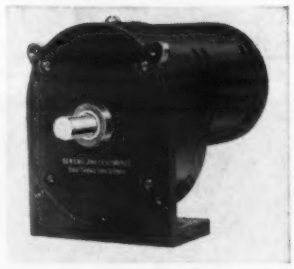
Three types: Split Bronze Bushed Journal Bearings, 1-15/16" to 2-15/16"; Rigid Bronze Bushed Pillow Blocks, 3-7/16" to 8"; Angle Bronze Bushed Pillow Blocks, 1-15/16" to 8"; Ask your Dodge distributor or write to us for a bulletin.

Dodge Manufacturing Corporation, 2100 Union St., Mishawaka, Ind.

DODGE of Mishawaka, Ind.

For more details circle NED-158 H1 on enclosed inquiry slip

REVERSIBLE GEARMOTOR
in 1/15-hp, 0.3 to 500-rpm ratings



Instant reversal, high torque, low sound level, and output speeds from 0.3 to 500 rpm are features of this line of fractional horsepower gearmotors. They develop up to 250 lb-in. of torque at 10 rpm and are available in 1/15-hp 220-v 3-phase and 115-v single-phase ratings. A large felt oil reservoir, alloy gears, and permanently-lubricated ball bearings contribute to long life. • **New England Gear Works, Inc.**, South End Road, Southington, Conn.

For more details circle NED-159 H1 on enclosed inquiry slip

MEASURING TOOL
ranges of 1½ to 14 in. are offered

This SPV Unimeter is used in conjunction with gage blocks or other precision standards for comparative measurements. The jaw operates without play and is spring actuated to give constant measuring action. After the reference has been set up, tool can be used accurately by unskilled personnel. Anvils are available for OD, ID, O-groove, V-groove, and thread measuring. Ranges are 1½ to 14 in. • **Homestrand Machine Tool Corp.**, 392 W. Putnam Ave., Greenwich, Conn.

For more details circle NED-160 H1 on enclosed inquiry slip

CABINET RACKS
fittings offered for varied uses

Designed for use in row arrangements, Series PR and FR cabinet racks have open side walls to facilitate intermediate rack-to-rack wiring. Series PR units have rear doors only and Series FR units have both front and rear doors. Both are of welded construction, and may be used together with racks of differing widths, but of the same height. Detachable side panels can be furnished. Standard fittings and accessories include mounting brackets and shelves, sliding shelves and drawers, roller trucks, recessed rack subbases, and solid and louvered panels. Both series include four standard heights from 48⅛ to 83⅛ in., depths of 18 and 24 in., and widths of 19, 24, and 30 in. in seven finishes. Prices range from $80.60 to $257.20. • **Par-Metal Products Corp.**, 32-62 49th St., Long Island City 3, N. Y.

For more details circle NED-161 H1 on enclosed inquiry slip

HOW TO CUT ASSEMBLY TIME AND COSTS!

..Ask National! Years of producing the world's lowest cost in-place fasteners assures you of qualified assistance in obtaining fastenings that will cut costs and speed assembly!

THE FOUR BIG ADVANTAGES NATIONAL OFFERS

★ **Engineering Service**
National is Headquarters for fastening problems. By the same token, National is Headquarters for fastening solutions!

★ **Low Equipment Cost**
Buy or lease depending upon the job or capital requirements.

★ **Quality Rivets**
National has the facilities and equipment to give you the right rivets for lowest cost in-place fastening.

★ **Speed of Assembly**
Automatic riveting equipment can be used with excellent speed and results even by unskilled or semi-skilled help!

Send a blueprint or product itself to National for a prompt and dependable answer to your assembly problem.

Bulletin No. 137 describes and lists industrial rivets. Write for your copy.

NATIONAL RIVET & MFG. COMPANY
211 MAIN STREET • WAUPUN, WISCONSIN

For more details circle NED-162 H1 on enclosed inquiry slip

INDUSTRIAL INKS To Mark Anything!

Whatever the substance, Phillips has an ink to mark it permanently and legibly—or can make one. Marking experts insist on "Clear Print" Wood Block Stamp Pads and Opaque Inks. They get clear, sharp, fast-drying impressions. Also inks for brush, pen, stencil or machine application available in a variety of colors and quantity containers.

★ Quick Laboratory Service On Your Problem Markings

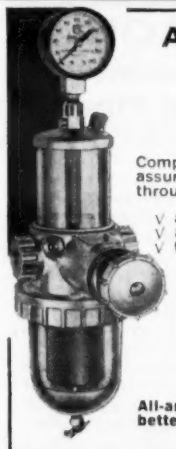
★ To Permanently Mark . . . Metals, Plastics, Glass, Wood, Paper, Leather, Ceramics—glazed, varnished or lacquered surfaces and virtually every other known material.

For Complete Information Phone BAker 5-8201 or write:

PHILLIPS PROCESS CO. INC.
192 MILL STREET
ROCHESTER, NEW YORK

For more details circle NED-163 H1 on enclosed inquiry slip

ALL AROUND
AIR CONTROL

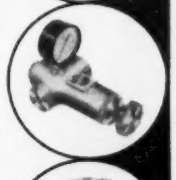


Compact 3-way Air Control unit assures all around protection through

√ accurate regulation
√ automatic lubrication
√ fine, moisture-free filtering

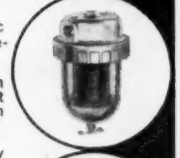
Easily installed, only 2 connections necessary. Step up production — eliminate unnecessary down-time, repairs, and replacement of air equipment.

All-around protection means a better all-around operation.



Balanced piston REGULATOR has automatic bleed-off—main tains required pressure — responds to load changes.

Automatic LUBRICATOR meters lubricant in proportion to pressure — fog-like oily mist assures efficient lubrication — a smooth trouble-free operation.



Dual cyclonic FILTER action thoroughly cleans and removes moisture from working air steam.

Air Control means Cost Control.

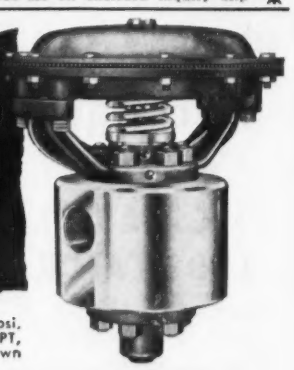
Available from stock in pipe sizes ¼" through ¾" NPT.

Write for **BULLETIN 80**, describing complete line of Air Controls.

PERFECTING SERVICE CO.
332 Atando Ave. Charlotte 6, N. C.
Baltimore · Buffalo · Chicago · Cleveland · Camden · Los Angeles · New York · Providence · Montreal · Toronto · Canada

For more details circle NED-164 H1 on enclosed inquiry slip

High Pressure Fluid Control a Problem?



Sinclair-Collins 6000 psi, 1 inch NPT, 2-way type shown

Specify Sinclair-Collins diaphragm-operated valves to control up to 6000 psi water or hydraulic fluid at high flow rates. S-C valves provide positive, fast control, tight sealing, compact size and ample safety factors.

Sizes range from ½ to 2 in. NPT, aluminum bronze billet bodies, pipe mounted, 2- and 3-way types, remote or direct electro-pneumatic control. Call your Sinclair-Collins Field Engineer today.

For more information, write for free Bulletin S-C 59. Address Sinclair-Collins Valve Company, Akron 9, Ohio, Dept. NED-861.

8168

The SINCLAIR-COLLINS VALVE Co.
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)
AKRON 11, OHIO

For more details circle NED-165 H1 on enclosed inquiry slip

91

AIR-MITE

PRODUCTION AIR PRESSES

- Any length column
- Any length stroke
- ¼, ½, ¾, 1 Ton capacities
- Special adaptations available

ONE MANUFACTURING SOURCE FOR PNEUMATIC AUTOMATION COMPONENTS

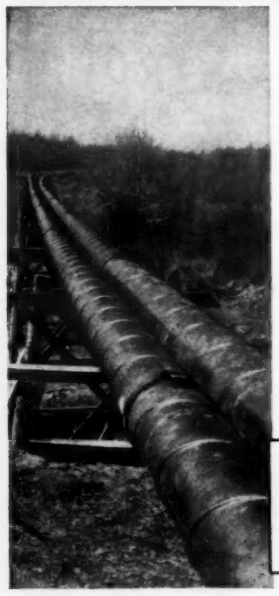
- Cylinders
- Presses
- Valves
- Filters
- Regulators
- Lubricators
- Fittings
- Hose

Air-Mite Production Air Presses are ruggedly built for high production applications. Solid steel column for greater strength and rigidity; compact, powerful cylinders have long, maintenance-free construction features that insure uninterrupted service. Available with a variety of controls for fast, safe operation. Press shown is equipped with two Air-Mite 3-way valves — 1 normally "closed", 1 normally "open." Cylinder will not return for second stroke unless both valves are actuated.

Write for complete Air-Mite catalog which illustrates and describes the Air-Mite line.

AIR-MITE DEVICES, INC. 4403 W. Kinzie St., Chicago 24, Ill.

▲ For more details circle **NED-166 H1** on enclosed inquiry slip ▲

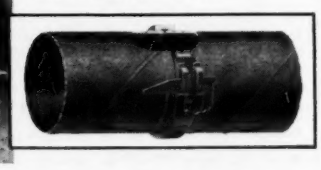


NAYLOR...

The Economical Steel Pipe

Pipe sizes from 4" to 30" in diameter in a wide range of wall thickness. NAYLOR Spiralweld steel pipe . . . easy to handle and install with built-in strength and safety. Suitable for most industrial applications.

For connecting NAYLOR pipe, all types of flanges and mechanical couplings are available in addition to the NAYLOR Wedgelock coupling illustrated. This positive coupling anchors securely to pipe ends. A hammer is the only tool required to connect or disconnect it.



Write for Bulletin No. 59 for data on pipe, fittings and connections.

NAYLOR PIPE Company

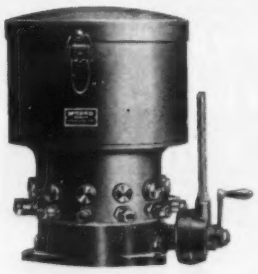
1247 E. 92nd St., Chicago 19, Illinois

Eastern U.S. and Foreign Sales Office:
60 East 42nd Street, New York 17, N. Y.

▲ For more details circle **NED-167 H1** on enclosed inquiry slip ▲

EFFICIENT • RELIABLE • ECONOMICAL

McCORD MODEL F GREASE LUBRICATOR



Machine tool, press, turbine, hoist, crusher, conveyor, you name it . . . if it requires greasing, *automate* with McCord's Model F Grease Lubricator. You'll cut labor costs, prevent work stoppages, minimize maintenance and repairs, reduce lubricant consumption.

Yes, McCord's Model F is fully automatic and features individually controlled feed that positively, accurately delivers the *right* quantity of grease to each individual point . . . regardless of grease weight, pressures or coldest weather. You can *count* on it, because McCord Grease Lubricator design is the result of more than 30 years of field experience.

Available with rotary drive, 22.5:1 or 45:1, and ratchet drive, 1.5:1 or 2.5:1.

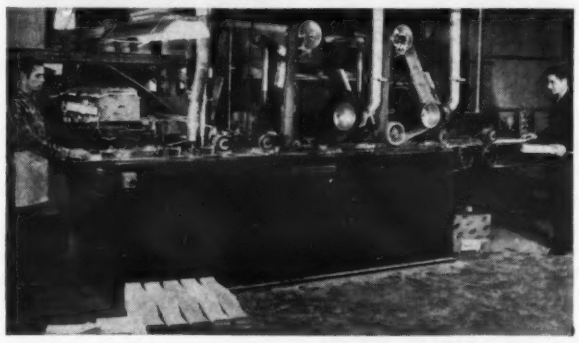
For full particulars on McCord's Model F, write today to: Advertising Manager—

McCORD CORPORATION
Lubricator Division • Detroit 11, Michigan

▲ For more details circle **NED-168 H1** on enclosed inquiry slip ▲

SANDING & POLISHING MACHINE designed for metal, wood finishing

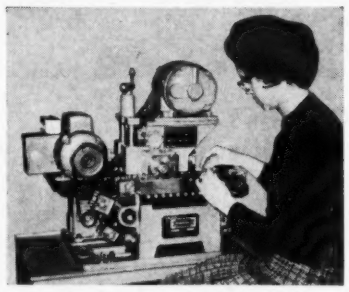
Any combination of four rough sanding and finish polishing operations is possible on this abrasive belt sanding and polishing sticker machine. Suited for



metal and wood finishing, it makes possible increases in production with reductions in man-hours as compared with simpler equipment. It has two belts above the workpiece, one below, and a fourth to one side. The 17 x 5 x 6½-ft machine uses X-weight 7 x 106-in. and 2½ x 106-in. coated abrasive belts of varying grits. Sanding of a uniform taper is possible. • **Mitchum & Schaefer, Inc.,** Abrasive Machinery Div., 430 S. Pennsylvania St., Indianapolis 25, Ind.

▲ For more details circle **NED-169 H1** on enclosed inquiry slip ▲

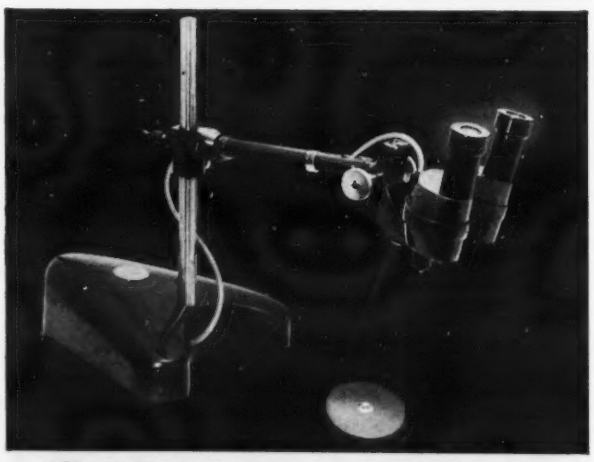
AUTOMATED MILL hand or automatically fed machine produces 250-3000 parts per hour



Tolerances within 0.001 in. are maintained in machining small electronic components, screw machine products, or irregular shaped parts on the AutomaticMILL. Its chain drive moves continuously at selected speeds as parts are inserted by hand or automatically hopper fed into the holding fixtures. The self-contained fixtures apply clamping pressures from 50 lb to ½ ton to hold the parts as they pass beneath the cutter for milling. Clamping and unclamping is automatic.

Built-in air wipers remove all chips and dirt from the bases prior to repeating the cycle. Heavy duty spindle has horizontal and vertical micrometer adjustments. The AutomaticMILL may be clamped to the bed of a milling machine, or a separate milling head may be mounted on the unit to create a self-contained machine. Production capability ranges from 250 to 3000 parts per hour. • **AutomaticMILL, Inc.,** Danbury Industrial Park, Danbury, Conn.

▲ For more details circle **NED-170 H1** on enclosed inquiry slip ▲



STERIMAG

Crystal sharp stereoscopic image
Built-in focusable light source
Long 7" working distance — wide field
Stable base with universally adjustable mounting
Fixed magnification 10X and 20X models each **$165**

COOKE TROUGHTON & SIMMS INCORPORATED
91 WAITE STREET, MALDEN 48, MASSACHUSETTS
IN CANADA: 77 GRENVILLE STREET, TORONTO

▲ For more details circle **NED-171 H1** on enclosed inquiry slip ▲

Let "CADILLAC" Prove Itself to *YOU!*

Portable

Cadillac WINCH HOIST

Model 202WN
Pat. No. 2,738,954
Pat. No. 2,927,771
Other Pats. Pending

LIFTS—PULLS—LOWERS
1000 to 4000 pounds

Aluminum Alloy Castings Withstand Corrosion

Stainless Steel Shafts & Springs

Preformed Aircraft Cable is engineered to bend before any mechanical part is subjected to an overstrain

Easy to Operate
Easy to Maintain
Lightweight—Only 7½ to 14 lb

$30.95 and up.

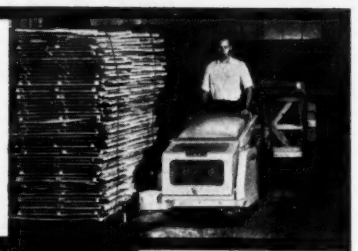
ALUMINUM PRODUCTS, Inc.
Est. 1943
699 S.W. 2nd Ave., Ft. Lauderdale, Fla.

▲ For more details circle **NED-172 H1** on enclosed inquiry slip ▲

Clarke

POWER SWEEPERS

Walking Type power sweepers in 27" and 36" swath sizes. Riding sulky available for 36" size.



Riding Type sweeps 36" swath, is easily maneuvered, even in congested areas.

Heavy Duty Riding Type sweeps 36" swath, is built like a tank for 'round the clock use.

CUT SWEEPING COSTS UP TO 80%

These rugged workhorses will outstrip twenty men with pushbrooms in sweeping large floor areas! They cover from 35,000 to 100,000 sq. ft. per hour, sweeping right up to the walls, picking up all debris and dust. Available in walking, sulky and riding types to reduce your sweeping costs as much as 80% . . . *give you labor costs as low as 15c per hour!*

For a demonstration on *your* floors, write for full details and name of your nearest Clarke Power Sweeper distributor.

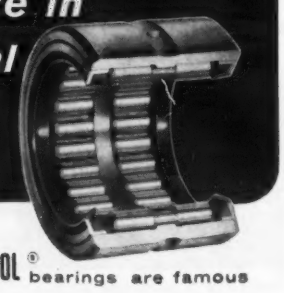
Clarke FLOOR MACHINE COMPANY
DIVISION OF STUDEBAKER-PACKARD CORPORATION

228S Clay Avenue
Muskegon, Michigan

Authorized Sales Representatives and Service Branches in Principal Cities
IN CANADA: Clarke Floor Machine Co., (Canada) Ltd., 21 Advance Rd., Toronto 18, Ont.
DISTRIBUTED BY: Rudel Machinery Company Limited, Montreal 3, Quebec

▲ For more details circle **NED-173 H1** on enclosed inquiry slip ▲

Protected bearing performance in small radial space



McGILL sealed GUIDEROL® bearings are famous for long life under heavy loads

GUIDEROL design combines the inherent high load capacity of a full-complement of race-width rollers with the advantage of center guided rollers that limit skewing and prevent binding under misalignment. Integral seals keep contamination out and lubrication in. This packs a bonus of service life into GUIDEROL bearings and eliminates the need for frequent relubrication.

For limited space, high load, precision bearing requirements, specify McGILL SG series Sealed GUIDEROL bearings.

Write for helpful Bearing Handbook No. H-54-B

engineered electrical products — McGILL® — precision needle roller bearings

McGILL MFG. CO., Bearing Div., 101 N. LAFAYETTE ST., VALPARAISO, IND.

▲ For more details circle NED-174 H1 on enclosed inquiry slip ▲

SAVE on PARTS MOLDED of

NYLON • DELRIN* • LUCITE*

STOCK PARTS . . . Make your selection from hundreds of different gears, rollers, bushings, glides, etc. Your "special" part may be in our stock — adaptable to your needs. Investigate and save money.

Write for Catalog

SPECIAL PARTS . . . Our patented, low-cost tooling, especially geared to molding these materials to your specifications, gives you exceptionally low unit cost. Send print or sample for quotation.

We welcome short runs.

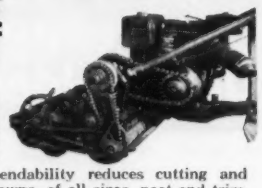
nylomatic CORP.

268 WEST TRENTON AVE. • MORRISVILLE, PA.

*Du Pont Registered Trademarks.

▲ For more details circle NED-175 H1 on enclosed inquiry slip ▲

ONLY LOCKE TRIPLEX MOWERS HAVE FULL CHAIN DRIVE



Your best power lawn mower value is the versatile LOCKE TRIPLEX!

It's the *only* power mower with three perfectly synchronized chain driven, counterbalanced cutting units, revolving at the same rate of speed . . . on wet or dry grass.

Locke exclusive features and dependability reduces cutting and trimming time by ½. Keeps lawns, of all sizes, neat and trim.

DRIVES: Guarded, heat treated and hardened steel sprocket roller chain.

BLADES: Heat treated and hardened alloy steel motor driven spiral type reels, mounted on ball bearings.

SINGLES . . . 25" & 30" TRIPLEXS . . . 70" & 75"
Plain or Reverse.

Send for literature. Ask your Locke Service Dealer for a full Demonstration, now.

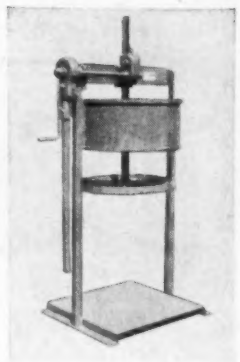
Locke **POWER LAWN MOWERS**

1087 CONNECTICUT AVE., BRIDGEPORT 1, CONN.

A product of the Locke Steel Chain Co.

▲ For more details circle NED-176 H1 on enclosed inquiry slip ▲

TRASH BALER
compresses into 50-gal drum



Trash paper, contaminated wastes, or reclaimable materials are compressed into easily-handled bales right in standard 50-gal drums by this large E-Z Baler. Drum containing the material is placed on the base of the baler, then lid is forced down through the drum by turning the crank handle. A ratchet handle allows final pressure, up to 4000 lb, to be exerted. Baler is rustproofed throughout and has enclosed gears. • **Vernon Tool Co.**, 1101 Meridian Ave., Alhambra, Calif.

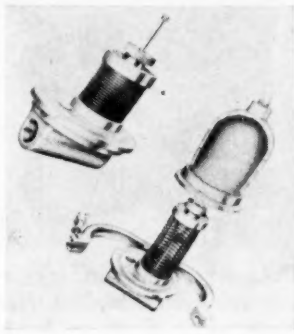
▲ For more details circle NED-177 H1 on enclosed inquiry slip ▲

PORTABLE FLOOD LIGHT
300-w unit operates on 12 v

Construction of this Circle-D 300-w portable flood light eliminates the danger of electric shock when working inside wet tanks, boilers, or other damp locations. Light is sealed against shock, water, moisture, and dirt. It operates from 12-v battery for emergency car or truck service, or from a step-down transformer. Clutch type elevation adjustment keeps lamp at desired angle, even under heavy vibration. Shatterproof plastic handle and wide base are featured. • **Natale Machine & Tool Co.**, 339 Highway 17, Carlstadt, N. J.

▲ For more details circle NED-178 H1 on enclosed inquiry slip ▲

COMPRESSION SPRING FILTER
for thin to high viscosity fluids



High volumes of liquids ranging from water thin to high viscosity are filtered by this compression spring filter which is offered for pipelines, pressure pots, and pumps. Element is made of two interwound springs. One wire is coiled around the other wire to insure unfailing compression - consistent filtering through rectangular openings as small as 0.005 in. Filters can be made of various metals, including aluminum and stainless steel. An all-stainless unit will perform under 3000 psi. Units can be connected end-on-end to increase capacity as needed. • **Chrom-O-Lite Co.**, 2701 E. 78th St., Minneapolis, Minn.

▲ For more details circle NED-179 H1 on enclosed inquiry slip ▲

Spray on

Statnul

wipes off static . . . wipes out error!

Static electricity can cause false readings in panel and test instruments . . . especially with plastic-faced meters. Eliminate this problem for months with new Weston STATNUL. *Spray or apply* with saturated cloth—then wipe. An invisible shield drains away static. *Cleans and polishes* with every application . . . wards off abrasive dust.

Mail coupon today or see your Weston distributor.
Only $3.95! Check or money order enclosed ☐
Bill me. Purchase order enclosed ☐

Name_____

Address_____

City_____ Zone____ State____

WESTON **Statnul** a product of DAYSTROM, INCORPORATED

Weston Instruments Division, Dept. NE8, Newark 12, N. J.

▲ For more details circle NED-180 H1 on enclosed inquiry slip ▲

Di-acro

HYDRA-POWER BENDER

Hydraulically operated for high speed. Accurately bends simple and complex shapes in a variety of materials. Bending capacity to 1" round mild steel bars and 1½" 16 gauge steel tubing. Delivered completely tooled or tooling can be done in your shop if you prefer. Hand operated benders with radius capacities from 2" to 12" are also available.

Ask your Di-Acro distributor for details or write us.

di-acro

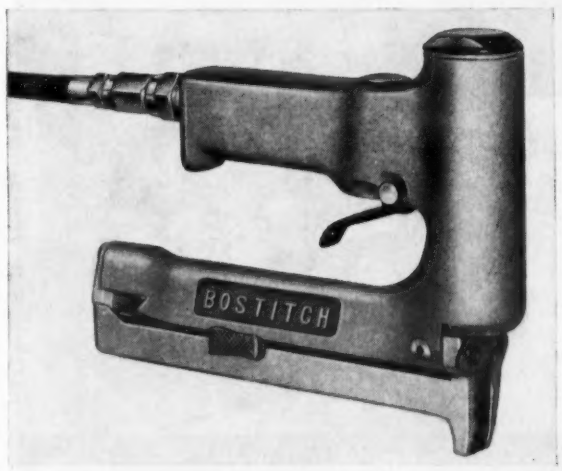
DI-ACRO CORPORATION

formerly O'Neil-Irwin Mfg. Co.

78L Eighth Ave. • Lake City, Minn.

▲ For more details circle NED-181 H1 on enclosed inquiry slip ▲

new low-pressure BOSTITCH T21 AIR TACKER operates on 20 p.s.i.



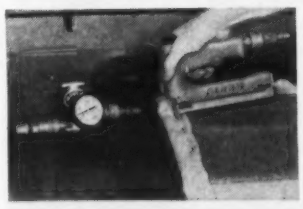
Low-pressure, high-speed Bostitch T21 for hard-hitting air stapling with as little as 20 p.s.i. on many tacking jobs. Operating range from 20 to 90 p.s.i. permits use of the exactly correct pressure. Balancing pressure to job cuts recoil and tacker wear, reducing costly down time and operator fatigue. Low pressure cuts operating expense.

You can increase production capacity. Convert to a larger number of low-pressure Bostitch T21s on your present air system.

TWO WIRE SIZES

.025" round wire staples — low cost with penetrating and holding power often superior to comparable flat wire.

.050" x .019" staples — two magazines provide quick change-over to staple lengths from 3/16" x 9/16".



"Test Drive" Demonstration
A Bostitch Economy Man will set up a T21 with pressure regulator and gauge in your plant. Circle our number on the Reader Service Card.

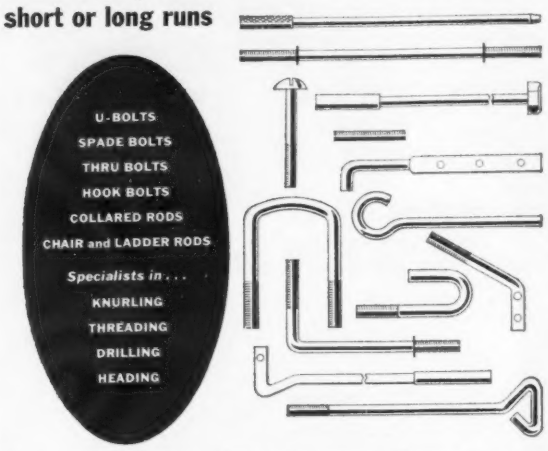
Fasten it better and faster with

BOSTITCH
STAPLERS AND STAPLES

668 Briggs Drive, East Greenwich, R. I.

▲ For more details circle NED-182 H1 on enclosed inquiry slip ▲

Complete Facilities for the manufacture of Special Headed and Threaded fasteners / from 1" to 60" in length in short or long runs

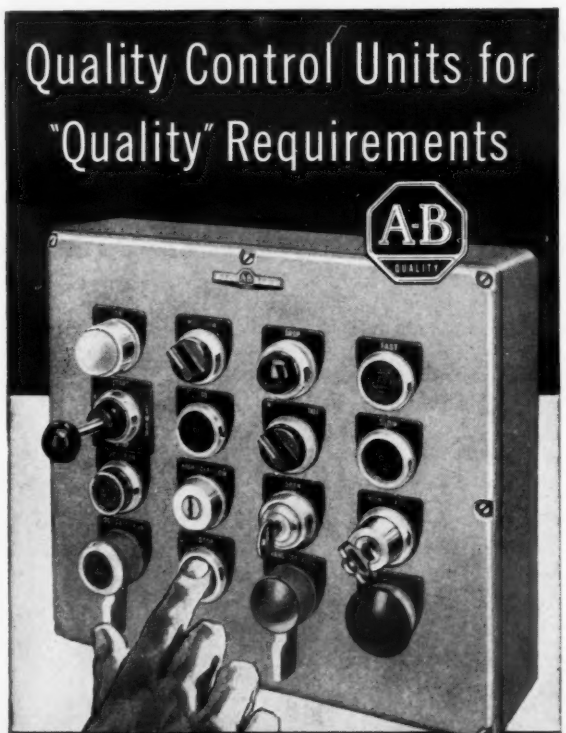


Send drawings or blueprints for quotes and literature.

OHIO ROD PRODUCTS CO., INC.
20265 1st AVENUE • BEREA, OHIO

For more details circle NED-183 H1 on enclosed inquiry slip

Quality Control Units for "Quality" Requirements

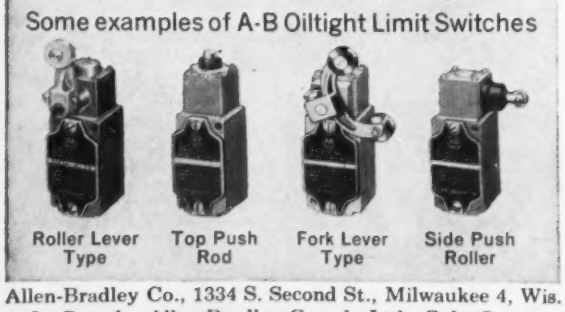


Bulletin 800T OILTIGHT CONTROL UNITS

A-B control stations for up to 16 units are "standard" in die-cast aluminum enclosures. Quality sheet metal cabinets available for up to 25 units.

All A-B Bulletin 800T push button control units and also the enclosures are completely sealed to prevent the entry of oil, grit, and metal particles which could foul the contacts and cause trouble. The double break, silver contacts assure years of continuously reliable operation—without so much as a moment's service attention. In addition, you'll find the rugged construction and generous wiring room in all A-B push button enclosures real "bonus" values during installation. For full details, send for Publication 6090, today.

Some examples of A-B Oiltight Limit Switches

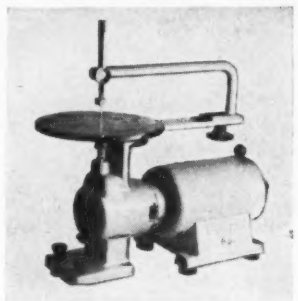


Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wis.
In Canada: Allen-Bradley Canada Ltd., Galt, Ont.

ALLEN-BRADLEY
Member of NEMA
QUALITY MOTOR CONTROL

For more details circle NED-184 H1 on enclosed inquiry slip

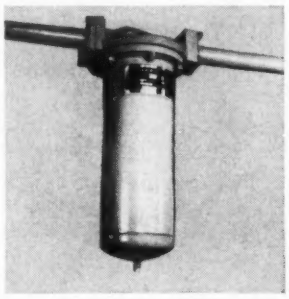
MULTIPLE PURPOSE TOOL
stirs, pumps, drills, grinds, saws



Basic unit of the Multifix multiple purpose tool is the 11-lb, 1/10-hp, 110/220-v motor with a single control handle for infinitely variable speeds from 0 to 2800 rpm in either direction. Quickly changed snap-on attachments enable it to perform such jobs as stirring, pumping, drilling, grinding, sawing, and polishing. Fittings to the motor shaft are made by one plain spindle end and one bayonet type fitting. Sawing attachment is shown. • Bel-Art Products, Industrial Road, Pequannock, N. J.

For more details circle NED-185 H1 on enclosed inquiry slip

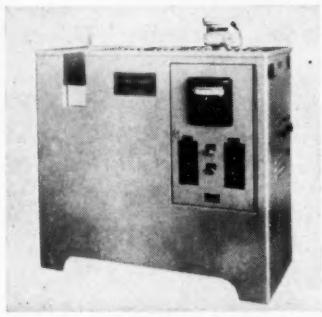
AIR LINE RESORBERS
remove vapor contaminants



Easily installed in any position and requiring little servicing, these compressed air line resorbers quickly remove all types of vapor contaminants found in process air lines. They contain an activated carbon charge in a replaceable canister. Standard ratings are 50, 150, and 700 cfm, all for 125-psi working pressure. • Barnebey-Cheney Co., Cassady at Eighth, Columbus 19, Ohio.

For more details circle NED-186 H1 on enclosed inquiry slip

RECIPROCATING FURNACE
for temperatures up to 1900° F



Low cost, high volume bright hardening of small, slender, or fine parts is performed economically in this Model FLA-12 reciprocating furnace. Practically 100 per cent acceptable yield is obtained on such items as watch parts, ball bearings, and instrument components. The operator merely presses a pushbutton to achieve a precise heat at up to 1900° F maximum. Parts to be treated are inserted in a hopper from which they enter an Inconel tube heating element-retort-conveyor. Parts flow by controlled vibration to an oil quench bath in a sealed atmosphere which can be of any required character. • C. I. Hayes, Inc., 836 Wellington Ave., Cranston 10, R. I.

For more details circle NED-187 H1 on enclosed inquiry slip

MOLDED POLYETHYLENE DRUMS...reduce shipping, handling and storage costs

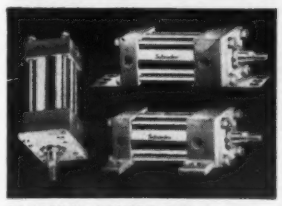
Redmanson polyethylene drums, designed for almost any container application, are especially practical where corrosion is a problem. These drums last much longer than steel and cost far less than stainless. Redmanson drums are easily cleaned, light in weight, and nest when empty. Sizes up to 55 gallon capacity are available. Write for information and prices.

REDMANSON CORPORATION
630 Loucks Mill Rd.
York, Pennsylvania
Choice distributorships and Mfg. Rep. Territories available

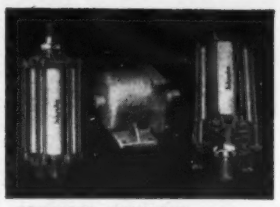
For more details circle NED-188 H1 on enclosed inquiry slip

Quality Air Cylinders... Square End or Standard... by SCHRADER

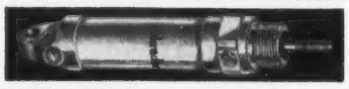
Choose from full lines to perform limitless jobs



SCHRADER SQUARE END double-acting cylinders meet and exceed JIC standards. Choice of mountings. Easily match any installation requirement. Suitable for air pressures to 250 psi, hydraulic to 750 psi. Cushioned or non-cushioned. Five sizes up to 4" bore.



SCHRADER STANDARD cylinders will lift, lower, push, pull, open or shut . . . better than other power units of equivalent size and weight. Inexpensive, easy to install. Variety of mountings, capacities, lengths of stroke, types. Forces from under 20 lbs. to over 5000 lbs.



PLUS MINIATURE AIR CYLINDERS . . . small, compact, simple, powerful.

CONSULT YELLOW PAGES FOR YOUR NEARBY DISTRIBUTOR OR WRITE FOR HIS ADDRESS

Schrader a division of SCOVILL

A. SCHRADER'S SON
Division of Scovill Manufacturing Co., Inc.
459 Vanderbilt Ave., Brooklyn 38, N. Y.

QUALITY AIR CONTROL PRODUCTS

For more details circle NED-189 H1 on enclosed inquiry slip

GRATING FOR HEAVY FOOT TRAFFIC

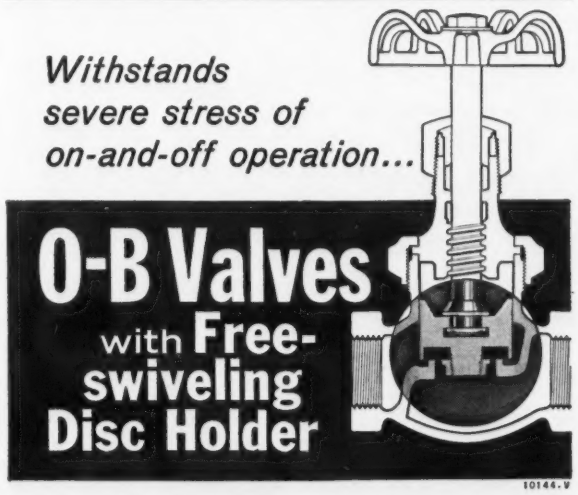
WRITE FOR NEW BULLETIN NO. 2595

Blaw-Knox 36-Bar Grating is designed especially for heavy foot traffic locations, such as ventilators or sidewalk openings. Bearing bars are only ½" apart—only ⅜" apart in 37-bar grating. Close mesh design is more comfortable, safer for standing or walking, yet gives plenty of space for ventilation, light passage and self-cleaning. Write Blaw-Knox Company, Pittsburgh 38, Pa.

BLAW-KNOX **BLAW-KNOX** GRATING

For more details circle NED-190 H1 on enclosed inquiry slip

Withstands severe stress of on-and-off operation...



O-B BRONZE VALVES feature self-leveling, free-swiveling disc holders in globe and angle types (except needle valves) in sizes down to ⅛-inch. This O-B design keeps disc from grinding against seat—assures accurate alignment—withstands constant on-and-off operation—chops maintenance costs. Write for new catalog information.

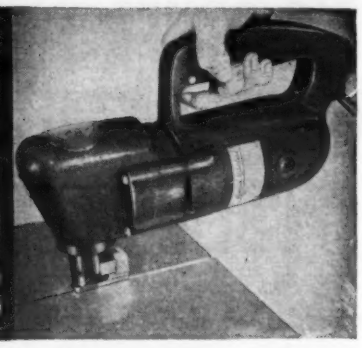
OHIO BRASS COMPANY
Mansfield, Ohio

Ask your distributor for the valve in the orange-and-black box

For more details circle NED-191 H1 on enclosed inquiry slip

CUT METAL *FAST,* WITHOUT DISTORTION USE

MODERN NIBBLERS



They cut 10 gage stainless, 8 gage mild steel, 7 gage aluminum and brass without bending or curling the metal.

They cut 6" (and smaller) radius.

Models are available for cutting corrugated metal, fibre glass and plastic without cracking or chipping. Other models for cutting wire netting, irregular rods, gaskets, etc.

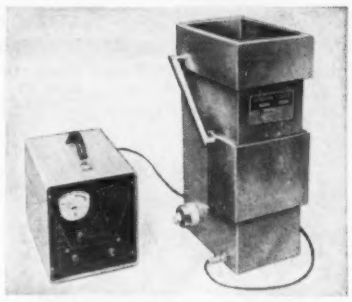
A MODEL FOR CUTTING ¼" COLD ROLLED STEEL AVAILABLE SOON!

Write, wire or call

MODERN MFG. CO., INC.
680 Davisville Road, Willow Grove, Pa.
Phone: OLdfield 9-4820

For more details circle NED-192 H1 on enclosed inquiry slip

ULTRASONIC DEGREASERS
three sizes use Freon solvent

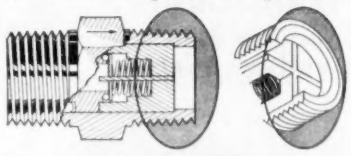


Two-stage ultrasonic degreasers use Freon TF solvent to clean parts containing any plastics, metals, elastomers, or insulations which would be attacked by chlorinated solvents. Parts are first placed in the ultrasonic chamber to remove or loosen all contamination. They are then transferred to the vapor area for a final cleansing in distilled Freon vapors. Parts emerge clean and dry. The three bench model degreasers are self-distilling, permitting continual re-use of the solvent. All use barium titanate transducers, sealed in stainless steel. • **National Ultrasonic Corp.**, 95 Park Ave., Nutley 10, N. J.

For more details circle NED-195 H1 on enclosed inquiry slip

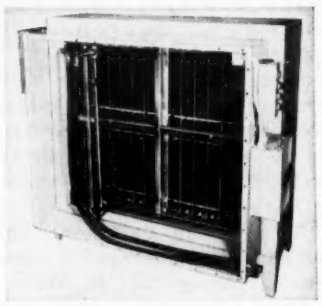
CHECK VALVE
opening pressure is 2 psi

Housed in a standard hex nipple, Series 1500 check valve has open construction for minimum flow obstruction. It opens at 2 psi, is stocked in brass in ¼, ⅜, and ½-in. NPT sizes, has Buna-N O-rings, and the spring and disc are stainless steel. Prices start at $3.50 for the ¼-in. size. • **Bodnar & McDermott Mfg. Co.**, 19 Beechwood Ave., Mt. Vernon, N. Y.



For more details circle NED-196 H1 on enclosed inquiry slip

ELECTRONIC AIR CLEANER
1000 to 25,000-cfm sizes offered

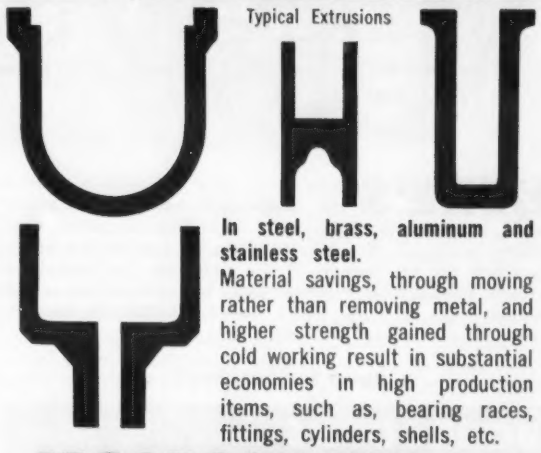


Automatic maintenance is incorporated in Type HVSC Electro-Cell packaged electronic air cleaners, for use in inaccessible areas and with air handling units. The high velocity electrostatic precipitator is furnished with front and back duct connections, drain pan, and preassembled washing and oiling mechanism. Twenty-four sizes from 1000 to 25,000 cfm are available for floor or ceiling mounting. All are easily field-installed. Automatic washing schedules can be set to meet the job requirements. Each compact collector cell has a depth of 10 in. and is designed for free water flow from top to bottom. • **American Air Filter Co.**, 215 Central Ave., Louisville 8, Ky.

For more details circle NED-197 H1 on enclosed inquiry slip

COLD IMPACT EXTRUSIONS

Typical Extrusions



In steel, brass, aluminum and stainless steel.
Material savings, through moving rather than removing metal, and higher strength gained through cold working result in substantial economies in high production items, such as, bearing races, fittings, cylinders, shells, etc.

JACOBSON NUT MFG. CORP.
Kenilworth, New Jersey

For more details circle NED-199 H1 on enclosed inquiry slip

Available in Stainless Steel, Brass, Aluminum and Steel

JACOBSON NUT MFG. CORP. KENILWORTH, N.J.

For more details circle NED-200 H1 on enclosed inquiry slip

New and Improved . . .
"SEALINE"

THERMO-PLASTIC HAND SEALER

For Polyethylene—Pliofilm and Other Thermoplastics

• **"Teflon" coated roller eliminates intermediate material or liquid—Seals direct.**

• **Now available for 220 Volts. AC or DC—110V or 220V.**

$23.90 F.O.B. CHICAGO

- For fast, flat sealing—straight or irregular shapes.
- Seals direct—no intermediate material required.
- Accurate adjustable heat control—200° to 450° F.
- Easy to handle—weighs less than 1 lb.

Order direct or write

CENTURY ENGINEERING CO., INC.
4720 W. Lake St., Chicago 44, Illinois

For more details circle NED-193 H1 on enclosed inquiry slip

GOODYEAR

Solid Hit!

Rolling up savings in the toughest shop service are rugged Goodyear Pressed-on Solid Tires. Here's why:

1. Extra-thick tread cushions loads—reduces truck and floor maintenance.
2. Tougher rubber endures chipping, cutting—for longer life on the job.
3. Less friction, smoother starts, easier rolling, help conserve power.

Check your Goodyear dealer today for more facts on cost-cutting Goodyear Solid Industrial Tires. Or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from

GOODYEAR

More tons are hauled on Goodyear truck tires than on any other kind

For more details circle NED-194 H1 on enclosed inquiry slip

GOODYEAR

4 Times the Life!

New Neothane Solid Industrial Tires by Goodyear outlast other tires up to 4 times—even when lugging 2 to 4 times the load normally carried on regular rubber tires. Here's why:

1. Neothane—Goodyear's polyurethane synthetic—wears like steel, rolls like rubber.
2. Rolls over metal chips, splinters, broken glass—with minimum cutting, gouging.
3. Won't swell or turn spongy after wading through water, grease, oil, solvents or acids.

Plus outstanding performance on heaviest loads to take rough going without damaging floors. See your Goodyear dealer for facts on new Neothane Industrial Tires or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from

GOODYEAR

More tons are hauled on Goodyear truck tires than on any other kind

Neothane—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-198 H1 on enclosed inquiry slip

GOODYEAR

NEW Deep-Tread Pneumatic!

New Cross-Rib Pneumatic Industrial Tires bring you a new premium in performance. You get:

1. The same extra-deep tread design used on Hi-Miler Cross-Ribs—famed for extra mileage and superior traction in highway hauling service.
2. Scientifically toughened tire rubbers — unsurpassed for resistance to cutting—gouging—hard wear.
3. Exclusive 3-T Processed Cord body—triple-tempered for triple-toughness at a precise Tension and Temperature for an exact Time.

Top traction, extra long life — both are yours in the great new Cross-Rib Pneumatic Industrial Tire. Now available in 6.50 x 10 and 7.00 x 12 sizes. See your Goodyear Dealer. Or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from

GOODYEAR

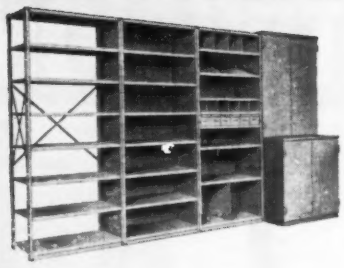
More tons are hauled on Goodyear Truck Tires than on any other kind

Hi-Miler—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-201 H1 on enclosed inquiry slip

make yours Borroughs!

STEEL SHELVING



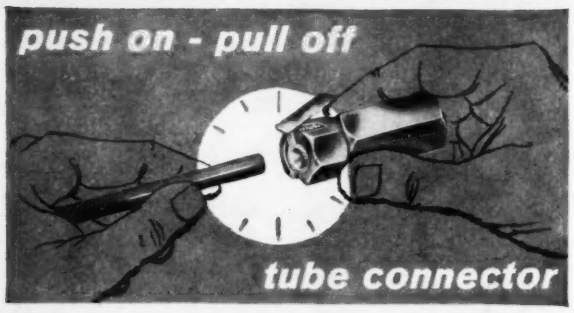
HERE'S the ONE steel shelving that meets ALL your demands for rigidity, durability, flexibility, simplicity, economy. No other shelving on the market offers so much for the money. Entire units can be assembled without special tools. Shelves can be installed or rearranged without nuts or bolts. Every unit is a complete unit in itself. Send for all the Borroughs facts today.

send for catalog!

BORROUGHS MANUFACTURING COMPANY OF KALAMAZOO
A SUBSIDIARY OF THE AMERICAN METAL PRODUCTS COMPANY OF DETROIT
3072 NORTH BURDICK ST. amp® KALAMAZOO, MICHIGAN

For more details circle NED-202 H1 on enclosed inquiry slip

AUTOMATIC LOCKING



Instantly connects pressure and vacuum lines to straight end tubing

Simply push the Connector over end of tubing and press to "stop" position. This **AUTOMATICALLY** locks tubing into place for a leak-proof seal. To unlock, press Thumb Pad and pull Connector off. For any pressure to 1000 psi; vacuum up to 25 microns. Rugged, simple, fool-proof, it saves time and labor. One end tapped for inlet connection. Stock sizes for 1/8" to 1½" OD tubing. Other sizes to order. Write for Catalog and prices.

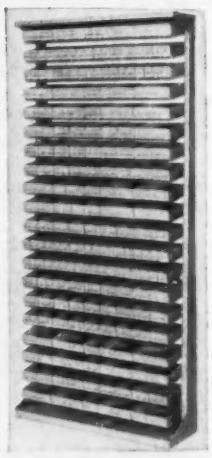
for AIR WATER, STEAM, FREON, etc.

mp MECHANICAL PRODUCTS CORPORATION
1724 West Hubbard Street, Chicago 22, Illinois

For more details circle NED-203 H1 on enclosed inquiry slip

make yours Borroughs!

small parts BINS



BIG value in SMALL parts storage bins — that's what you get when you specify Borroughs' nationally popular "Handee Andee" Small Parts Bins. They're compact, sturdy, super-efficient, offering maximum storage space in minimum floor space. Everything's always in place — easy to see — easy to reach. "Handee Andee" Small Parts Bins are available in 3 heights — 32", 56", 84" — each model will hold 4 different sizes of slip-on, slip-off Bin Boxes in any arrangement you desire. Bin Boxes have large label holders for instant identification of contents, and curved bottoms for speedy removal of parts. Get more facts —

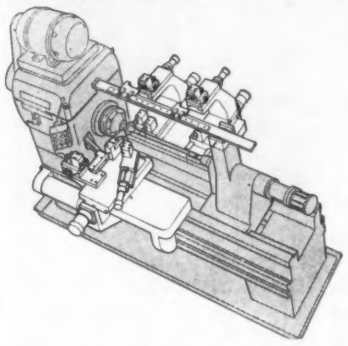
send for catalog!

BORROUGHS MANUFACTURING COMPANY OF KALAMAZOO
A SUBSIDIARY OF THE AMERICAN METAL PRODUCTS COMPANY OF DETROIT
3072 NORTH BURDICK ST. amp® KALAMAZOO, MICHIGAN

For more details circle NED-204 H1 on enclosed inquiry slip

TRACER CONTROL UNIT
mounts on most standard lathes

Ferrous and nonferrous work ranging from simple axle shafts to complex configurations can be turned out in job-shop or production runs on a lathe equipped with this hydraulic tracer control unit. Applicable to most lathes, it is accurate within 0.0002 in. in motion, tracing, and positioning. Control unit adapts to horizontal or vertical machines, controlling both carriage and cross slide from a single tracer valve. It generates concave radiuses, re-entrant angles, square shoulders, chamfers, and acute angles, and performs face, straight, inside, and outside diameter turning operations. Surface finishes obtained are 63 microinches rms or less, depending upon feed, material, and tool condition. Changing templates and jobs requires but a few minutes. • **Detroit Broach & Machine Co.**, Box 156, Rochester, Mich.



For more details circle NED-205 H1 on enclosed inquiry slip

DO-IT-YOURSELF TRANSFORMER
easily wound for use as a current or ac voltage source

Time consuming task of obtaining the correct transformer for the job at hand is eliminated by employing the Flexiformer primary Type TP1000 packaged transformer. It can be used as a temporary or permanent source of alternating current voltage or current. The required number of winding turns are hand threaded through the center opening to obtain the desired rating. When used as an ac voltage source, the input rating is 120 v, 50/60 cycles, single-phase, and the output rating is 0.75 v at 120 v input.

As a current transformer, its winding becomes the secondary winding and a current carrying conductor passing through $2\frac{1}{8}$-in. center opening serves as the primary. Maximum continuous duty ratings are 800 amp for primary current and 5 amp with a 160:1 primary to secondary ratio at a 1-per cent accuracy at 60 cycles. Intermittent duty ratings are 1600 amp primary and 10 amp secondary. Resistance soldering power supply and line corrector are among its uses. Size is $3\frac{3}{8}$ x 9 x 9 5/16 in. •**Superior Electric Co.**, 83 Laurel St., Bristol, Conn.

For more details circle NED-206 H1 on enclosed inquiry slip

You don't have to be a Monkey—

. . . to loosen frozen bolts on utility poles. The new Aerosol Kroil, which can be squirted with one finger, loosens the most stubborn frozen metal parts . . . FAST.

More than 18,000 shops depend on Kroil whenever frozen metal parts threaten to tie up production or waste manhours. In this new package it is the finest rust-busting tool ever . . . shoots a stream 3 ft. yet won't leak. One customer said, "before trying Kroil we broke off every nut (on our heat treat trolleys), since then we have not lost one and have decreased the repairing time from 30 minutes to about 6 minutes per trolley."

KANO KROIL LOOSENS FROZEN METAL PARTS

Use Kroil on all dismantling jobs; for filing, sawing, honing; . . . also keeps air driven tools running freely.

Just try Kroil on a make good basis. Case of 12 Aerosol Kroil 12 ounce cans $18.75 f.o.b. factory or send $2.00 for one can postpaid. If it doesn't perform to suit you, return the empty can for refund.

KANO LABORATORIES 1074 Thompson Lane Nashville 11, Tennessee

For more details circle NED-207 H1 on enclosed inquiry slip

NO OTHER TOOL MOVES METAL FASTER, CHEAPER

Arcair process for metal removal

You won't believe it until you see it! Arcair Torch cuts, gouges, grooves, bevels or flushes off more metal . . . any metal . . . in less time for less money. Gives you cleaner, better jobs, yet is inexpensive to install and operate, easy to use. Arcair works with any standard arc welding machine on ordinary shop air. Your men learn to use it in 15 minutes.

Ask for a demonstration soon or write for complete information.

Arcair®
449 S. Mt. Pleasant Street
Lancaster, Ohio

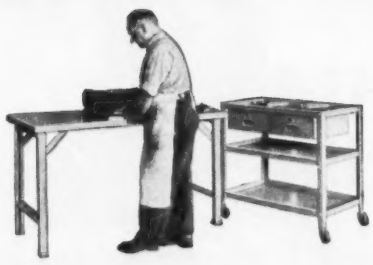
For more details circle NED-208 H1 on enclosed inquiry slip

AJUSTRITE CHAIRS ... STOOLS
AJUSTO EQUIPMENT CO.
Bowling Green, Ohio

For more details circle NED-209 H1 on enclosed inquiry slip

make yours Borroughs!

SHOP EQUIPMENT



VALUE is the one word that best describes Borroughs Shop Equipment, because you get the MOST in rugged construction, engineered design and functional efficiency for the price you pay. Borroughs line includes Work Benches, Tool Stands, Utility Carts, Shop Desks and Tables, portable and semi-portable Work Bench Kits, a wide range of Accessories. Every unit is quality throughout.

send for catalog!

BORROUGHS MANUFACTURING COMPANY OF KALAMAZOO
A SUBSIDIARY OF THE AMERICAN METAL PRODUCTS COMPANY OF DETROIT
3072 NORTH BURDICK ST. amp® KALAMAZOO, MICHIGAN

For more details circle NED-210 H1 on enclosed inquiry slip

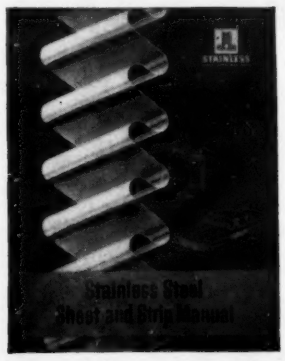
Whether you mark materials, parts, products or packages, there's a Markem machine ready to bring low cost, high production identification or decorative marking to your plant. From plastics to fabrics . . . transistors to camera parts . . . multi-color decorative marking to high production offset marking — there's a *Markem Method* to meet your marking needs. One source, with 47 years of experience in all industries, can supply the machines, type, inks, accessories and service you need. For complete information, write Markem Machine Company, Keene 3, New Hampshire.

MARKEM

EVERYTHING INDUSTRY NEEDS . . . FOR PROFITABLE MARKING . . . SINCE 1911

For more details circle NED-211 H1 on enclosed inquiry slip

New Design Manual



Stainless Steel Sheet and Strip

Here's a brand new, 34 page manual giving design data on J&L Stainless Steel sheet and strip. Written to help the design engineer to select the best stainless for the requirements of his specific applications, it presents properties and performance data in easy-to-use form.

Here are just a few of the subjects covered:

- MECHANICAL PROPERTIES
- CORROSION DATA
- FABRICATION INFORMATION
- CONVERSION TABLES

Plus a useful Stainless Steel Selector chart . . . and much more

Send Today for your Free Copy

WRITE TO DEPT. 173D-16

Jones & Laughlin Steel Corporation

STAINLESS AND STRIP DIVISION

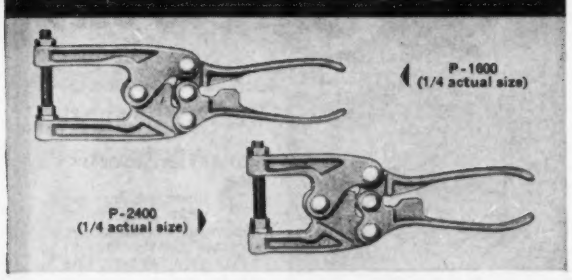
Box 4606, Detroit 34, Michigan

STAINLESS

SHEET • STRIP • BAR • WIRE

For more details circle NED-212 H1 on enclosed inquiry slip

Another step forward *KNU-VISE* TOGGLE PLIERS with 1600 & 2400 lbs. clamping force



In keeping with its reputation for providing the industry's most efficient toggle clamps and pliers, Lapeer Manufacturing Company has introduced new plier models—the P-1600 and P-2400 series.

Long and comfortable handles are a feature of these Lapeer Knu-Vise pliers. With average handload, these pliers provide a clamping force of 1600 and 2400 lbs. respectively. The P-1600 series has a throat depth of 2¼", and throat gaps of 1 3/16, 3, 4 and 6 inches. The P-2400 series has a throat of 1¼" x 1¼". Each series is available with two opposing spindles. All models can be furnished with unlocking levers. The pliers are made from steel forgings, heat-treated, and cadmium plated.

Write for more information and remember—LAPEER KNU-VISE GIVES YOU MORE VALUE FOR YOUR MONEY.

Manufacturers of over 150 models of manually and air-operated clamps and pliers

KNU-VISE PRODUCTS | LAPEER MANUFACTURING CO.

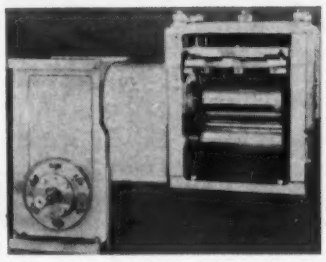
3062 DAVISON ROAD
LAPEER, MICHIGAN

WESTERN DIV.: PECK and LEWIS CORPORATION
4436 Long Beach Ave., Los Angeles 58, Calif., ADams 3-7146

CANADIAN DIV.: HIGGINSON EQUIP. SALES LTD.
1131 Pettit Road, Burlington, Ontario

For more details circle NED-213 H1 on enclosed inquiry slip

STRIP STOCK ROLL FEED precision feeds at 3000-fpm rate



Dynamic control is combined with accurate roller gear drive indexing in the Camtrol roll feed unit, designed to precision-feed strip stock at rates over 3000 ipm. Roll assembly is self-adjusting for variations in stock thickness. Strokes up to 6 in. are available with standard roll feed, although other strokes are available with modification. Feed length variations can be achieved by exchanging rolls with those of different diameters. • **Ferguson Machine Co.**, 7818 Maplewood Industrial Court, St. Louis 17, Mo.

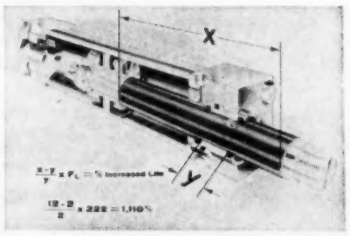
For more details circle NED-214 H1 on enclosed inquiry slip

MASONRY ANCHOR KIT for No. 8, 10, and 12 drill sizes

All items needed for anchoring to any kind of masonry are contained in this Contractor Kit. Each kit provides a carbide-tipped masonry drill, 100 anchors, and 100 screws, all packed in a reusable, compact, clear plastic box. Matched assortments for No. 8, 10, and 12 drill sizes are offered. • **Rawlplug Co.**, 200 Petersville Rd., New Rochelle, N. Y.

For more details circle NED-215 H1 on enclosed inquiry slip

BRONZE COATED PISTON RODS cut replacement, lubricating costs



Substantial reductions in the cost of bushing and rod replacement, as well as lubrication, are realized with use of Bronze Case guide and piston rods. These bronze-coated rods, used in combination with hardened steel bushings, minimize stick-slip and chatter. Bronze is fused to steel rod surface by high temperature spraying and has controlled porosity for lubricant retention. Wear is greatly reduced because it is spread over the large bronze area. Nicks in the bronze coating are quickly burnished smooth by the steel bushing. Rods are offered in ¾, 1, 1¼, 1½, 1¾, 2, 2½, and 3-in. diameters, with tolerances ranging from ±0.0000 to 0.0007 in. • **Thomson Industries, Inc.**, 1029 Plandome Rd., Manhasset, N. Y.

For more details circle NED-216 H1 on enclosed inquiry slip

JONES #4800

Hand Tachometer

BROAD RANGE
50 — 50,000 R.P.M.
with stop button

assures better production

HIGHER OUTPUT — QUALITY CONTROL obtained by maintaining proper machine speeds. Also helps avoid breakdowns by detecting irregularities.

CARRY IT FROM JOB TO JOB and keep it handy for quick, accurate tests. Choice of readings in R.P.M., F.P.M., etc.

GUARANTEED ACCURACY—superior construction, trouble-free. Unaffected by moisture, temperatures, electric currents.

Many other Portable and Stationary Models are available for use on all types of industrial machines.

Write for catalog K

JONES MOTROLA CORP.
Stamford, Conn.

For more details circle NED-217 H1 on enclosed inquiry slip

- **Ideal for Hot Weather.** Filter's porous action absorbs and actually exhales body heat.
- Flex-A-Foam's lightweight (only 1 ounce complete) makes it cool and comfortable to wear — not hot and cumbersome like old-fashioned respirators.
- Flex-A-Foam is easier to breathe and talk through than an ordinary pocket handkerchief — does away with that stuffy, smothered feeling.

UNMATCHED ECONOMY

Flex-A-Foam is the lowest priced quality respirator on the market today.

Flex-A-Foam's washable filter outlasts throw-away type by more than 100 to 1.

Fewer filter replacements with Flex-A-Foam Dust Masks mean fewer lost production hours.

Your best *Ounce of Protection* against Irritating Dust

Sample only $1.45 postpaid (Industrial price only)

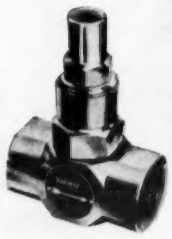
FLEX-A-FOAM DUST MASK ®

FLEXO PRODUCTS, INC. • Westlake, Ohio

For more details circle NED-218 H1 on enclosed inquiry slip

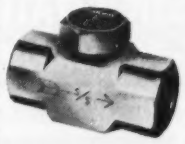
NEED A STEAM TRAP?

SERIES 60
"Granddaddy" of all Yarway Impulse Steam Traps. Ideal for process jobs. Pressures to 400 psi. Six sizes—½" to 2".

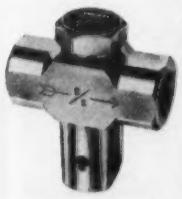


SERIES 120
Higher pressure version of Series 60. Pressures to 600 psi. Screwed or welding ends. Six sizes—½" to 2".

SERIES 40
High capacity applications. Lever-type valve. For shell and tube heaters, cooking coils, dryers, etc. Pressures to 600 psi. Five sizes —½" to 3".



SERIES 30
For light to moderate condensate loads —tracer lines, main drips, etc. Replaceable disc-type valve and seat. Pressures to 600 psi. Two sizes —⅜" and ½".



SERIES 130
New compact combination—steam trap, strainer and blow-down valve in one small unit. Saves time, space, money. Two sizes —⅜" and ½".

● Whatever your steam trap need, there's a YARWAY IMPULSE to exactly meet it—and a nearby Industrial Distributor to supply it. Free catalog? Write YARNALL-WARING CO., 131 Mermaid Ave., Phila. 18, Pa.

. . . TRY A YARWAY

For more details circle NED-219 H1 on enclosed inquiry slip

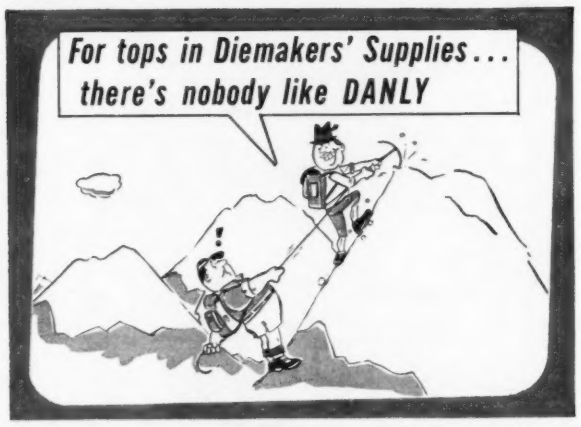
1 man handles Sheet Steel Faster, Easier with a C-F LIFTER

C-F Lifters, under one man operation, pick up, carry and unload more sheet steel tonnage per hour than any other method – and at lower cost per ton. Wide carrying angles hold sheets securely – won't damage high grade sheets; tong action insures safe carrying; fast opening and closing adjustments of Lifter jaws permit shifting from one size pack to another in seconds. C-F Lifters are made in standard or semi-special models to handle from 2 to 60 tons.

Write for Bulletin SL-30 for specific examples of C-F Lifter operation and economy.

CULLEN-FRIESTEDT CO.
1304 South Kilbourn Avenue • Chicago 23, Illinois

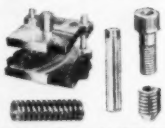
For more details circle NED-220 H1 on enclosed inquiry slip



You name it and if a diemaker needs it, Danly's got it. Whether it's a dowel pin, socket screw, die spring, stripper bolt or die set component, it's stocked for immediate delivery at your nearby Danly branch or distributor. Quality is tops, of course. Service, too — fast, efficient and as close as your phone. Try it.

DANLY

Write for literature on the complete Danly line of Diemakers' Supplies



PRECISION PRESSES, DIE SETS AND DIEMAKERS' SUPPLIES
HYDRAULIC METALWORKING EQUIPMENT

DANLY

DANLY MACHINE SPECIALTIES, INC.
2100 South Laramie Ave., Chicago 50, Illinois

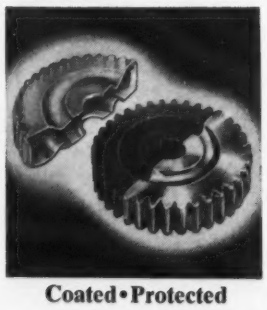
For more details circle NED-221 H1 on enclosed inquiry slip

HOT MELT PLASTIC COATINGS for GEARS • TOOLS • PRECISION PARTS

BEFORE

Dip

SECONDS AFTER



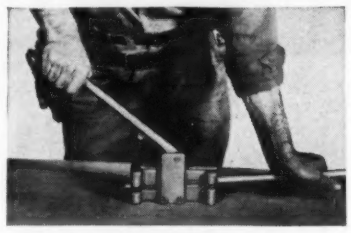
Coated • Protected

DIP-PAK Protect vital, expensive tools, gears, and machined parts during storage and shipping with Fidelity's durable, transparent plastic coatings. Merely melt coating briquette, dip parts, cool. Lasts indefinitely. Tough; abrasive, moisture, rust resistant. To remove, slit, peel. Re-melt, re-use coating. Economical, practical, rapid. Protect parts; save money.

Write for Bulletins and Free Samples
Fidelity Chemical Products Corp.
478 Frelinghuysen Avenue, Newark 5, N. J.

For more details circle NED-222 H1 on enclosed inquiry slip

HAND BENDER for ½-in. EMT conduit offsets

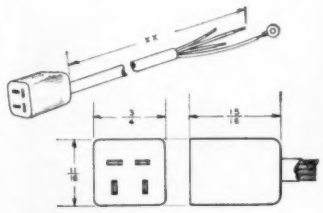


Perfect offset bends can be made in ½-in. EMT conduit for entering switch and junction boxes, and other outlets with this Little Kicker No. 1810 bender. It weighs only 5½ lb and is easily carried and used by one man. Both bends of the offset are made simultaneously by merely pressing down on the handle. • **Greenlee Tool Co.**, 2136 12th St., Rockford, Ill.

For more details circle NED-223 H1 on enclosed inquiry slip

MOLDED CONNECTOR CORDS tailored to customer specifications

A wide choice of conductor sizes and numbers, male and female plugs and sockets, lengths, and terminations is available in custom-tailored molded connector cords. The PVC-insulated conductors are UL-approved for 90° C 300-v service and are self-extinguishing. Both the molded plug and socket have the same ratings. Jacket is black, and wires can be color-coded in red, white, black, or green. Pin configurations and dimensions are identical to corresponding Jones plug. The cords are produced by a low-cost production process. • **Automation Services, Inc.**, Port Crane, N. Y.



For more details circle NED-224 H1 on enclosed inquiry slip

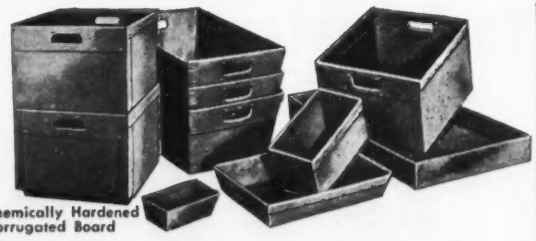
HOLD-BACK GUARD for presses, calenders, shears

Individually-adjustable straps of the Possons Hold-Back safety guard restrain operator's hands from reaching into any danger area on roller mills, pug mills, calenders, shears, and punch presses. Operator wears the nylon wrist bands which are attached to the adjustable straps. The straps are held by special fittings on the cross arm of the standard which is anchored to floor. Device is intended for use where hands approach, but are not required to enter the danger zone. Price is $32. • **Positive Safety Mfg. Co.**, Dept. 27, 4408 Perkins Ave., Cleveland 3, Ohio.

For more details circle NED-225 H1 on enclosed inquiry slip

Money talks today:

Dollar for dollar, Convoy* tote-boxes OUT PERFORM all others



*Chemically Hardened Corrugated Board

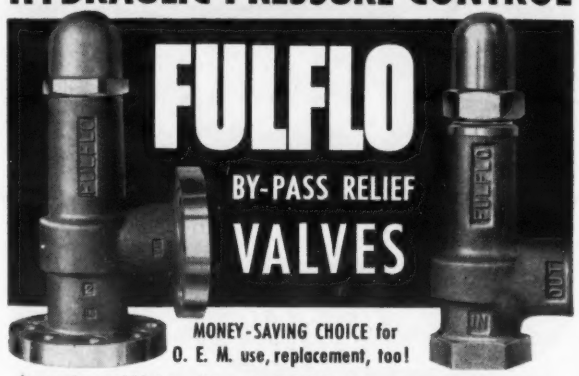
Low cost, light weight, sturdy, rigid. Wide variety of stock styles and sizes to fit your need exactly. Special shapes quickly and economically made in any quantity because die cost is negligible in our "Chem-Board" process.

More and more famous name industries are using Convoy Tote Boxes. Try us.

CONVOY, INC.
CANTON 6, OHIO
P. O. STATION B, BOX 216-N
GReenwood 7-4569

For more details circle NED-226 H1 on enclosed inquiry slip

for DEPENDABLE HYDRAULIC PRESSURE CONTROL



Low price and high quality make FULFLO piston-type hydraulic valves a natural O. E. M. choice. The service they deliver . . . quiet, dependable and trouble-free . . . makes them ideal from the equipment users' viewpoint.

- Screw or flange models . . . to 500 lbs. . . . for pipe sizes to 3"
- Steel, cast iron or brass bodies . . . brass, steel or stainless trim
- Fast shipment of standards . . . special to your requirements

FOR EXTRA CONTROL CONVENIENCE
Where frequent pressure setting is needed, install a FULFLO Hand Wheel Valve; available in a wide range of types.

Request complete catalog from:
The FULFLO SPECIALTIES CO., Inc. FULFLO
412 Fancy Ave. Blanchester, Ohio

For more details circle NED-227 H1 on enclosed inquiry slip

Your **SOABAR MAN*** recommends...

"Out-dated marking methods can tie profits in a knot. It's true! Old-fashioned devices cost more than just the price of pencils, pens, rubber stamps or obsolete equipment. Hours of marking time only result in smudgy, hard-to-read information at best. With SOABAR automatic label marking equipment you have inplant marking that's split-second and accurate . . . avoid unnecessary inventory of preprinted tags and labels . . . eliminate waste of unusable or out-dated tags and labels . . . imprint neat, legible labels that help keep merchandise current and salable. Ask your SOABAR MAN next time he calls about SOABAR completely-flexible marking methods."

* **William Roberts, District Manager, Philadelphia, Pa. . . . one of 36 SOABAR marking specialists conveniently located throughout the U.S.**

Soabar COMPANY
Specialists in Marking Equipment and Roll Tickets and Labels Since 1912
7722 Dungan Road • Philadelphia 11, Pa.

For more details circle NED-228 H1 on enclosed inquiry slip

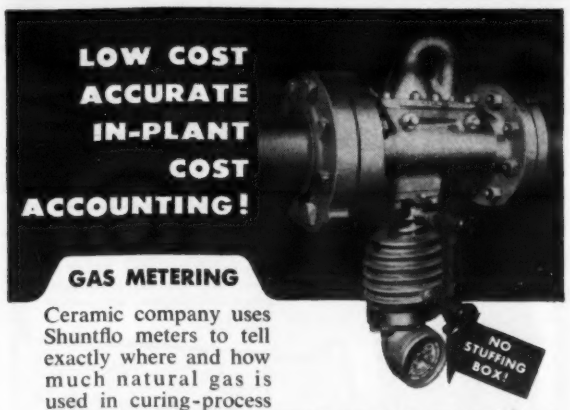
EASY ROLLING... SAFE TO USE!

SAFETY-STEP LADDERS WITH PYRAMID DESIGN

mean workers get jobs done faster. They are always ready to use; easily moved around. Made of welded steel, it seems like they last forever. Write for complete catalog to Ballymore Company, West Chester 3, Pa.

BALLYMORE
EQUIPMENT FOR ABOVE-FLOOR SAFETY

For more details circle NED-229 H1 on enclosed inquiry slip



GAS METERING

Ceramic company uses Shuntflo meters to tell exactly where and how much natural gas is used in curing-process ovens . . . to provide accurate totals in cubic feet of gas distributed in main lines or consumed in any process.

Self-contained unit can be installed in any line . . . requires no auxiliary equipment . . . has no stuffing box . . . accuracy within ± 2% of actual flow over 10:1 range. Performance-proved in metering steam, air, fuel gas, natural gas, oxygen, nitrogen, hydrogen, argon, CO_2, CO, SO_2, etc.

For complete data, request Bulletin 400.20-1.

Write **B-I-F Industries, Inc., 425 Harris Avenue, Providence, Rhode Island.**

B-I-F Industries

BUILDERS-PROVIDENCE • PROPORTIONEERS • OMEGA METERS • FEEDERS • CONTROLS / CONTINUOUS PROCESS ENGINEERING

▲ For more details circle NED-230 H1 on enclosed inquiry slip ▲

NEW

NORGREN PRECISION PRESSURE REGULATOR

For air-gauging, laboratory use, pilot regulation and other applications requiring high sensitivity and extreme accuracy.

Operating benefits include: **1.** Accurate regulation even at pressures below 1 psig. **2.** Accurate control at all flows up to the maximum flow recommended for ¼" pipe . . . more than 2 times the flow previously possible with instrumentation regulators. **3.** Freedom from hunt, hum, chatter. **4.** Exact repeatability and freedom from drift over short or long time operation. **5.** Built-in relief.

Write for Brochure NA-7

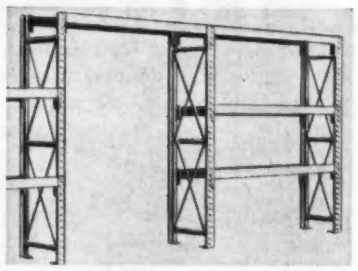
FOUNDED IN 1926

C. A. NORGREN CO.

3405 SOUTH ELATI STREET, ENGLEWOOD, COLORADO

▲ For more details circle NED-231 H1 on enclosed inquiry slip ▲

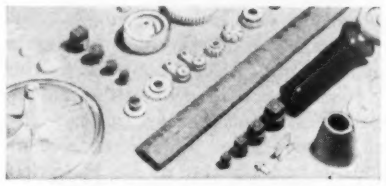
WHITE-FINISHED RACKS
color enhances appearance, safety



Distinctive Safety White finish on standard and custom Series 75 storage racks set them off from surrounding objects and contributes to neat appearance. The off-white color has certain plant safety advantages which contribute to efficient handling operations. Alternate finishes are available upon request. • **Palmer-Shile Co.,** 16015 Fullerton St., Detroit 27, Mich.

▲ For more details circle NED-232 H1 on enclosed inquiry slip ▲

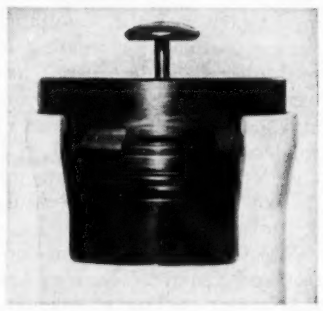
MOLDED PLASTIC PARTS
gears, shafts, fasteners, cams



Expanded company facilities provide for complete mold making, pigmenting, and accurate injection molding of parts from Delrin, nylon, high impact styrene, polypropylene, Lexan, and other thermoplastics. Threaded pipe plugs and gears are among the Delrin acetal resin parts offered to replace fabricated metals. Nylon parts include cams, gears, and shafts where little or no lubrication is required. Styrene impellers and fan blades are practical where shock loadings occur. • **Industrial Plastic Molders, Inc.,** 680 W. 18th St., Hialeah, Fla.

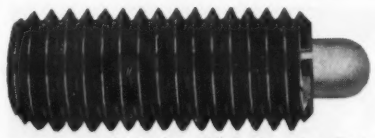
▲ For more details circle NED-233 H1 on enclosed inquiry slip ▲

PLUG-TYPE PIPE CLOSURE
locks in as it is seated

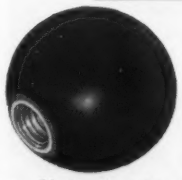


Camtight plug-type pipe closure locks itself in place as it is seated and provides a secondary adjustment when internal pressure is applied. Device consists of cam segments inserted in a sealing ring. As plug is seated in an aperture, the cam segments move out to engage the aperture wall. When internal pressure is then applied, cam sections back out enough to engage a shoulder provided at the edge of the aperture. Closures are offered in diameters from 2 in. up and are being used in reactor standpipe applications and other piping systems. • **Stanat Mfg. Co.,** 500 Shames Dr., Westbury, N. Y.

▲ For more details circle NED-234 H1 on enclosed inquiry slip ▲



SPRING PLUNGERS are now available in four types and thirty-four sizes. Black Pentrate Nose with standard spring pressures, 6-32 thru 1"-8 threads. Cadmium Plate Nose with light spring pressures, 6-32 thru 1"-8 threads. Black Nylon Nose with standard spring pressures, 8-32 thru ⅝"-11 threads. White Nylon Nose with light spring pressures, 8-32 thru ⅝"-11 threads. Northwestern Tools, Inc., 127 Hollier Ave., Dayton 3, Ohio.



PLASTIC BALL KNOBS with brass inserts are now available in four diameters and twelve thread sizes. ¾" diameter with 10-32 threads. 1" diameter with ¼-20, ¼-28, 5/16-18 or 5/16-24 threads. 1⅜" diameter with ⅜-16, ⅜-24, ½-13 or ½-20 threads. 1⅞" diameter with ½-13, ½-20 or ⅝-18 threads. Northwestern Tools, Inc. 127 Hollier Ave., Dayton 3, Ohio.

SWING "C" WASHERS complete with shoulder screws, are now available in four sizes for ⅜", ½", ⅝" or ¾" bolt sizes.

Write or call today for your free new 16-page cataolg. Catalog includes tracing templates of jig and fixture components. Northwestern Tools, Inc. 127 Hollier Ave., Dayton 3, Ohio.

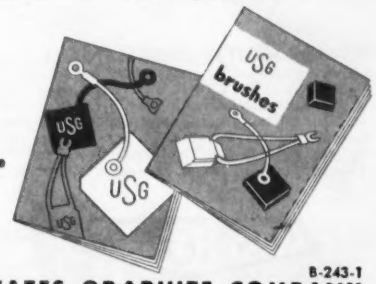
▲ For more details circle NED-235 H1 on enclosed inquiry slip ▲

USG®

BRUSHES

The solution to many major or minor brush problems can be solved with United States Graphite Company's USG Brushes. The shunt connections are permanent. Sizes are accurate for each application from fractional horsepower to locomotive diesel generator. Grades include carbon, carbon-graphite, electrographilitic, graphite, metal-graphite and silver graphite.

There is helpful, useful data in the complete but CONCISE USG Brush catalog B-56 and the USG grade list. Write for your copies today.



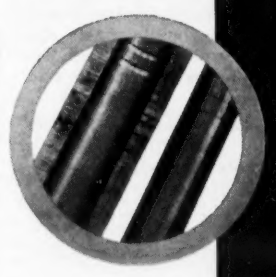
B-243-1

THE UNITED STATES GRAPHITE COMPANY

DIVISION OF THE WICKES CORPORATION • SAGINAW 10, MICHIGAN

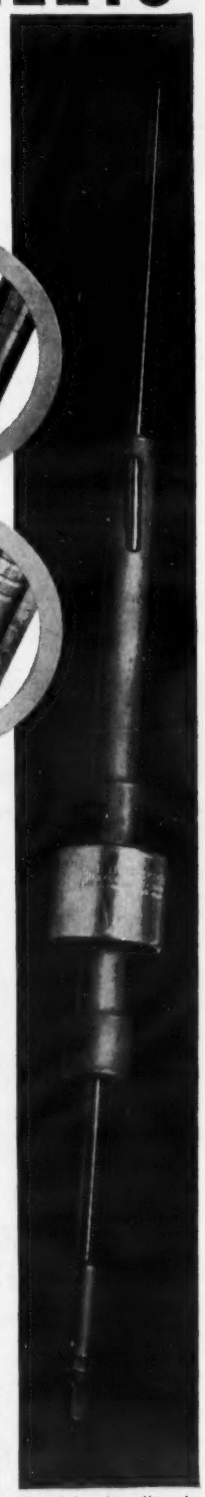
▲ For more details circle NED-236 H1 on enclosed inquiry slip ▲

Roll tubes into THICK SHEETS in one pass



Use of **NEW** continuous-rolling technique here—shows uniform seal, with all Keys preserved, and no signs of shear

OLD step-rolling method results in non-uniform surface . . . distortion of Keys where rolls have overlapped



Better Seal... Smoother surface... Much Faster operation

This new concept in tube expanders was developed by Elliott to roll the thickest tube sheets. Using a continuous-rolling method, it eliminates many problems common to step-rolling, may be operated protractively or retractively, saves time, assures uniform, smooth surfaces, avoids annular voids or erratic tube inside diameters, provides better seal.

Accessories

Elliott also makes a complete line of retubing accessories, including both electric and air magnetic Tube Rolling Controls, Tube Gages, Tube Plugs, Tube Cutters, etc.—in addition to a complete line of tube expanders. *Ask for Bulletin Y-52.*

Y1-4A

ELLIOTT COMPANY

GENERAL OFFICES: JEANNETTE, PENNSYLVANIA

PLANTS AT: Jeannette and Ridgway, Pa.; Springfield, Ohio; Newark, N. J.

TURBINES • GENERATORS • MOTORS • COMPRESSORS • TURBOCHARGERS
BEARING HEATERS • EJECTORS • CONDENSERS • STRAINERS • TUBE CLEANERS

▲ For more details circle NED-237 H1 on enclosed inquiry slip ▲

LITTLE BRUSHES THAT HANDLE BIG FINISHING JOBS

OSBORN SITUFT® AND HELITUF® brushes solve tough, time-consuming cleaning and deburring jobs. They can put the profit back in your small-job finishing operations. The reason: better brush design for greater speed, efficiency and versatility. Size ranges from 5/32" to 1¼" diameter. *The Osborn Manufacturing Company, Dept. N-26, Cleveland 14, Ohio.*

FREE BOOKLET *...gives complete, illustrated data on specifications and applications. Write for your free copy.*

OSBORN

METAL FINISHING MACHINES... AND FINISHING METHODS
POWER, PAINT AND MAINTENANCE BRUSHES • FOUNDRY PRODUCTION MACHINERY

For more details circle NED-238 H1 on enclosed inquiry slip

NEW

Highest-rated, lowest-priced ($11.95 Retail) 2½ lb. dry chemical extinguisher

Now — thanks to the new Kidde Kompact—here's high-power fire protection at a rock-bottom price! Highest-rated, lowest-priced 2½ lb. dry chemical extinguisher on the market, the new pressurized Kidde Kompact packs as much fire-killing power as extinguishers costing twice the price. Equal to eight one-quart carbon tet units, the new Kidde Kompact mounts snugly, works simply—just lift the handle and press the lever.

And... there's no recharging needed. Just unscrew the used cylinder, replace with another, only $3.95. At the low, low price of just $11.95, no one should be without a Kidde Kompact. U.L. and U.S.C.G.-approved. For complete information, see your dealer or write Kidde today!

14" HIGH

Kidde

Industrial and Marine Division
Walter Kidde & Company, Inc.
824 Main St., Belleville 9, N. J.
Walter Kidde & Company of Canada Ltd.
Montreal — Toronto — Vancouver

For more details circle NED-239 H1 on enclosed inquiry slip

Here are the fastest assembly tools in their class... introduced to you in this FREE catalog.

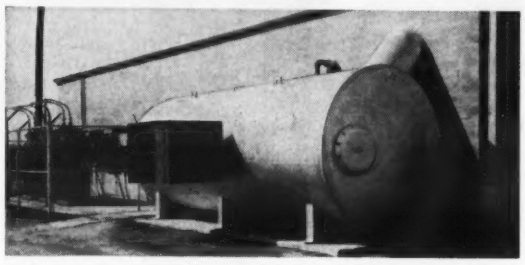
If you want to speed up production and cut costs in a wide variety of assembly operations requiring staking, crimping, swaging, riveting, peening as well as marking and punching, write for this new, complete Black & Webster catalog, describing the most modern, fastest all-electric assembly tools in their class. Write:

BLACK & WEBSTER, INC.
570 PLEASANT ST., DEPT. 1, WATERTOWN 72, MASS.

For more details circle NED-240 H1 on enclosed inquiry slip

DRY AIR SYSTEM
keeps compressor intake air at 38° F all year round

Intake air or gases for compressors are maintained at dry, winter-time temperatures every day of the year by the Coblentz dry air system. Engineered for each



installation, system draws in atmospheric air, filters it, dries it to less than 38° F dew point, chills it, and shrinks it to high density for efficient compressor use. Resulting compressed air is free of moisture and will not form destructive oil-moisture sludge.

System prevents vibrations and pulsating noises common to compressor intakes and eliminates pressure drop, icing, clogging, and moisture carry-over to the compressor intake. It can be used with all single or multistage compressors from 350 cfm up, in any climate. Weatherproof, self-contained dry air coolers can be placed outside, inside, or on the roof. • **Lynch Corp.**, Air Systems Div., Box 271, Anderson, Ind.

For more details circle NED-241 H1 on enclosed inquiry slip

SPIKE BENCH WELDERS
for transistors, electronic parts, work involving dissimilar metals

Advantages provided by spike power bench welders for transistor and small electronic components work include low heat effect in the weld zone and minimum shunt effect, permitting close spacing even on 14-gage material. Columnar current pattern for welding of multiple thicknesses and low weld pressure requirements are also featured. The S Series of welders consists of O, S-1, S-2, and S-3 models. All but the O size have standard welding controls.

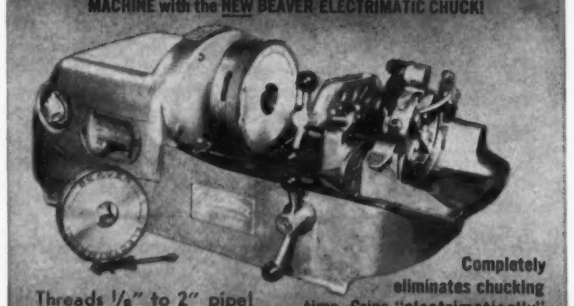
Size O uses a thyratron control and generates heat so low that water cooling of machine components is not required. This model is offered with treadle or air operation. Work range covered by line extends from tiny tube elements and wire down to 0.001-in. diameter to large transistors. Units are suited for welding dissimilar metals and such exotic metals as titanium, zirconium, and tantalum. • **National Electric Welding Machines Co.**, 1846 Trumbull St., Bay City, Mich.

For more details circle NED-242 H1 on enclosed inquiry slip

STOP RISING COSTS!

MORE SPEED! + MORE POWER! = MORE PRODUCTION!

THE NEW BEAVER SPEED-O-MATIC PIPE and BOLT MACHINE with the NEW BEAVER ELECTRIMATIC CHUCK!



Threads 1/8" to 2" pipe!
Threads 1/4" to 2" bolts!

Completely eliminates chucking time. Grips "electrimatically" the instant you flip the switch.

BEAVER

Send for complete catalog and name of nearest distributor

PIPE TOOLS, INC.
DANA AVE.
WARREN, OHIO

For more details circle NED-243 H1 on enclosed inquiry slip

Seiberling
INDUSTRIAL GLOVES

Longer wear in every pair! Available in various sizes, gauges, lengths, colors and surface finishes. Natural rubber or genuine Dupont neoprene latex. Contoured fingers for more comfort, better fit.

EXCLUSIVE PATENTED **FIRMGRIP®** SAFETY GRIP MOULDED INTO FINGERS AND PALM

SEND FOR CATALOG NO. G-2 of complete glove line

FREE TEST OFFER! Write us on your firm's letterhead for sample gloves for test purposes.

SEIBERLING LATEX PRODUCTS
New Bremen, Ohio

For more details circle NED-244 H1 on enclosed inquiry slip

MILLIONS OF OPERATIONS!

ASCO BULLETIN 8344

WITH NEW, LOW-COST, 4-WAY SOLENOID VALVE

Only 2 moving parts for minimum wear; no close adjustments.

Ultrasimple design eliminates return springs; power-operates main valve in both directions.

Pipe sizes ¼" and ⅜", to 250 p.s.i.; other 4-way valves to 1", 500 p.s.i.

Dead-tight shut-off assured by poppet-type seats and discs.

Economical even as 3-way valve with one pipe connection plugged.

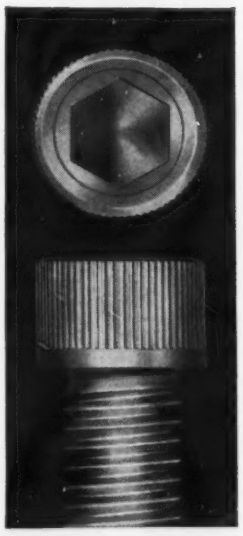
Write for illustrated Bulletin 8344, containing full details, specifications and price schedule.

ASCO Valves ASCO

Automatic Switch Co. 54B HANOVER RD., FLORHAM PARK, N. J. • FRONTIER 7-4600

For more details circle NED-245 H1 on enclosed inquiry slip

New stainless cap screw offers 125,000 psi tensile—certified!



New UNBRAKO KS 812 stainless steel socket head cap screw gives you 125,000 psi *minimum* tensile strength, certified by affidavit. Among the features of this fastener—

- Made of high-grade austenitic stainless
- Precision-forged, burr-free head
- Rolled thread with SPS Hi-Life root form for increased fatigue resistance
- Serviceable from −300° to 800°F.

Use this new high-performance UNBRAKO to add strength to your stainless assemblies—without the cost of specials. Sizes #8 to ⅜ in. See your SPS distributor or write Standard Pressed Steel Co.

INDUSTRIAL FASTENER Division SPS
JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-246 H1 on enclosed inquiry slip

Now—a Honeywell indicating temperature controller at this low price!

T654A
$84.00

Honeywell T654A indicates and controls temperatures on an evenly graduated scale accurate within 1% of scale range. A liquid-filled thermal system with an armored tube actuates a MICRO SWITCH* snap switch. This switch can control an *Actionator**, motor, relay, contactor or other device. Complete ambient temperature compensation for case and tubing. Unit can be surface or flush-mounted. Wells are available for applications requiring bulb protection.

Ranges to 1200° F. Write Honeywell, Minneapolis 8, Minn.

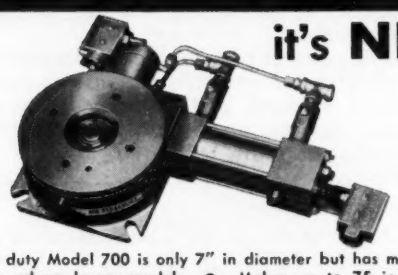
Honeywell

First in Control

*Trademark

▲ For more details circle NED-247 H1 on enclosed inquiry slip ▲

LOW COST 7" INDEX TABLE it's NEW



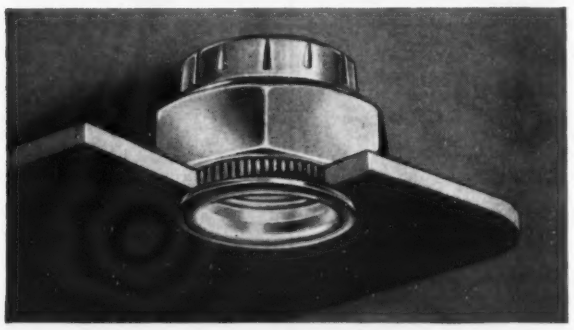
The heavy duty Model 700 is only 7" in diameter but has most of the features found on larger models • Makes up to 75 indexes per minute • Handles maximum work load of 100 lbs. • Maximum power stroke is 3 times line pressure • Operates on pressures from 60 to 175 p.s.i. • Clockwise rotation with either 4, 6, 8 or 12 stations standard • Others up to 24 stations and counter-clockwise rotation, to order • Bolt larger sub-plate (up to 14" dia.) to ground steel table for larger work area • Positive index—no override • Adjustable cushion and speed control • Each table checked for guaranteed accuracy of index (± .0015"), concentricity and parallelism.

WRITE NOW FOR FREE CATALOG AND PRICE INFO.

AIR-HYDRAULICS INCORPORATED

231 HUPP AVE.
JACKSON, MICHIGAN

▲ For more details circle NED-248 H1 on enclosed inquiry slip ▲



Easiest way to put tapped holes in sheet metal—FLEXLOC clinch nuts

- Serve as locknuts or stopnuts—hold screw tight wherever wrenching stops.
- Save time in blind mounting—hollow shank serves as guide for screw.
- Easily installed. No riveting, no welding, no auxiliary locking elements to worry about.
- Reusable repeatedly without loss of locking power.

Get FLEXLOC self-locking clinch nuts from your SPS distributor. Sizes #0 to ¼ inch—for materials from 1/32 to 3/16 inch thick. Or write us for literature and samples.

INDUSTRIAL FASTENER Division **SPS**

JENKINTOWN 24, PENNSYLVANIA

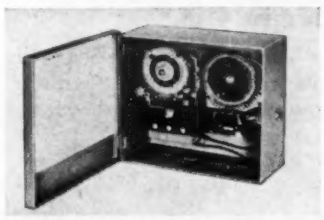
▲ For more details circle NED-249 H1 on enclosed inquiry slip ▲

PRODUCTION COUNTER capable of 1000 per minute rate

Pushbutton reset six-digit register is flush mounted on the front cover of the PE-329R photoelectric production counter for easy reading and rapid resetting to zero. Compact unit is capable of counting at rates up to 1000 per minute. Only moving parts are in the indicating register. Life expectancy is 100 million counts. • **Standard Instrument Corp.**, 657 Broadway, New York 12, N. Y.

▲ For more details circle NED-250 H1 on enclosed inquiry slip ▲

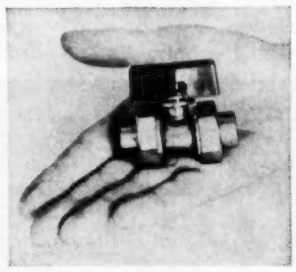
MULTIPLE DIAL TIMER for short industrial control use



Automatic control of varied short duration operations is provided by this multiple dial timer-control. It performs the work of two or more reset timers on operations requiring from 1 sec through several minutes every hour, day, or few days. It is easily adjusted to the cycle needs by resetting tabs or trippers. Preselected days can be skipped. Settings can range from 1 sec "on" in 7 days through 55 min each hour of each day. • **Tork Time Controls, Inc.**, Industrial Controls Div., Mt. Vernon, N. Y.

▲ For more details circle NED-251 H1 on enclosed inquiry slip ▲

MINIATURE BALL VALVES for sampling and metering uses



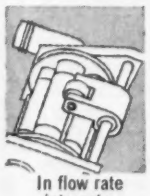
Compactness, easy operation, and maximum flow are inherent in line of miniature ball valves for use in sampling, instrumentation, metering, and similar applications. Available for both manual and motorized operation, valves can be used in place of needle valves, pet cocks, bib cocks, plug valves, and faucets. They are made in 1/8, 1/4, 3/8, and 1/2-in. sizes, in Type 316, 304, and other stainless steels with Teflon seats and packing. Maximum pressure rating is 1000 psi. Union nut end connection accommodates a range of interchangeable end pieces. Body can be removed from line without disturbing piping. • **Cooper Alloy Corp.**, Valve & Fitting Div., Bloy Street & Ramsey Avenue, Hillside 5, N. J.

▲ For more details circle NED-252 H1 on enclosed inquiry slip ▲

Use it as an axle... SEL-LOK spring pin

In cigarette lighter

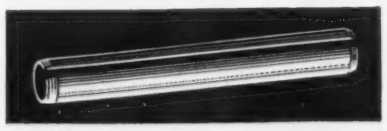
On pulley



In flow rate integrator

- Swift fastening—just drill and drive
- Secure locking—won't work loose despite shock or vibration
- Eliminates costly tapping, reaming, peening, milling
- Can be reused repeatedly
- 101 uses—as keys, cotter pins, axles, hinge pins, wrist pins, stop pins, pivots, etc.

SEL-LOK spring pins are available in carbon and corrosion-resistant steel (from 1/16 x 3/16 through 1/2 x 4 in.) and beryllium copper (1/16 x 3/16 through 1/4 x 3 1/2 in.). See your SPS distributor or write for Bulletin 2670.



INDUSTRIAL FASTENER Division **SPS**

JENKINTOWN 24, PENNSYLVANIA

▲ For more details circle NED-253 H1 on enclosed inquiry slip ▲

A Stewart-Warner

PRECISION BALANCER *can*

Increase engine and bearing life • Give longer, smoother electric motor service • Decrease vibration, noise • Improve product quality and balance from the smallest to the largest rotating part, without special tooling.

Stewart-Warner's balancers offer both quality and economy: they're priced lowest, yet outperform all others in work range, accuracy, fast setup time.

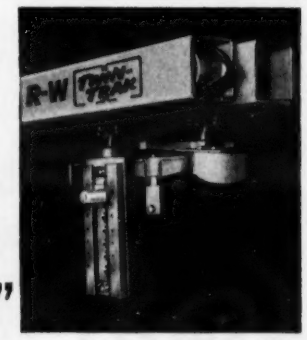
Send for FREE balancer catalog . . . or contact your Stewart-Warner representative!

Symbol of SW Excellence

STEWART-WARNER CORPORATION
INDUSTRIAL BALANCER DEPARTMENT
Dept. CK-81, 1850 Diversey Parkway, Chicago 14, Illinois

▲ For more details circle NED-254 H1 on enclosed inquiry slip ▲

Reduce manufacturing costs with R-W "TWIN-TRAK"



OVERHEAD AUTOMATIC DISPATCH SYSTEMS

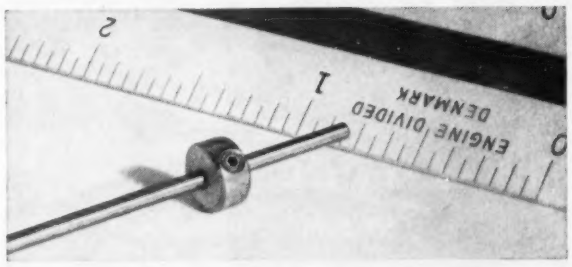
R-W "TWIN-TRACK" Systems provide a true "integrated" materials handling system that co-ordinates all production functions on a plant-wide basis. Automatically conveys parts and components to predetermined work stations throughout all production processes . . . parts and components that are automatically selected from overhead inventory banks and conveyed where they are needed—when they are needed. An R-W "TWIN-TRAK" Overhead Automatic Dispatch System consists of one or more Power Tracks and as many Storage Line Tracks as desired plus Switches, Carriers, Gravity Control Devices and Power Equipment. "TWIN-TRAK" Systems are economical to install, operate and maintain . . . easy to expand, alter or relocate as desired. Write for your copy of the "TWIN-TRAK" Catalog.

RICHARDS-WILCOX MFG. CO.

435 W. Third St., Aurora, Ill. • Branches in Principal Cities

▲ For more details circle NED-255 H1 on enclosed inquiry slip ▲

NOW! For miniaturized assemblies...



HALLOWELL steel collars in microsizes

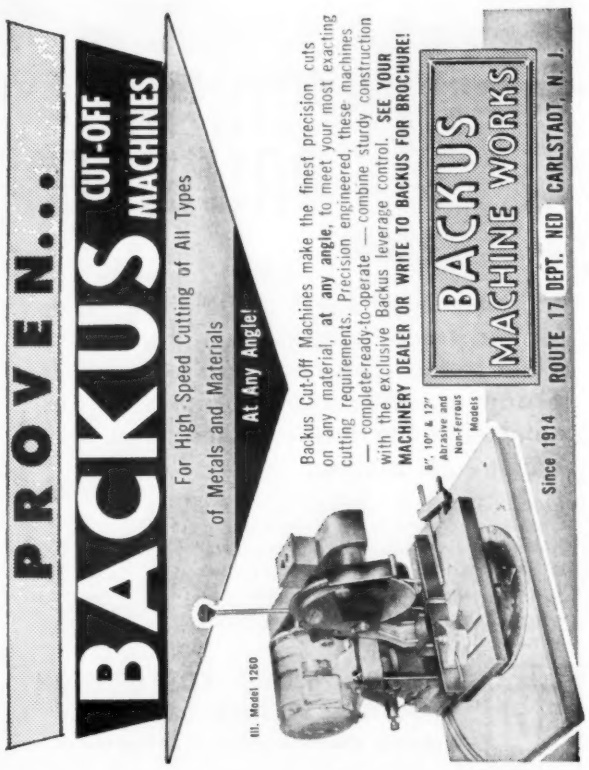
- 1/16, 3/32, 1/8 inch bore
- Fitted with UNBRAKO set screws for positive locking action
- Precision machined from finest bar stock
- Extremely versatile—used as thrust collars, locking collars, spacers, cam operators, indexing devices, etc.

Send for Bulletin 2638—complete information on all sizes of HALLOWELL steel and cast iron collars.

INDUSTRIAL FASTENER Division **SPS**

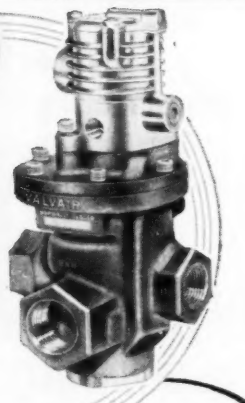
JENKINTOWN 24, PENNSYLVANIA

▲ For more details circle NED-256 H1 on enclosed inquiry slip ▲



▲ For more details circle NED-257 H1 on enclosed inquiry slip ▲

HI-SPEED inline AIR CONTROL VALVES



Short poppet travel for fast response . . . near instantaneous full flow for faster, safer control of brakes, clutches. This shortens cycle time . . . improves cut-off accuracy . . . minimizes drift, slip . . . cuts set-up time. Features air-cushioned poppet, JIC pilot, guaranteed coils for ac or dc. 2 or 3-way NO or NC, 3/8 through 1-1/4 in. NPT. 8183

Write for Bulletin HIN Address: Bellows-Valvair Akron 9, Ohio Dept. NED-861

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

▲ For more details circle NED-258 H1 on enclosed inquiry slip ▲

• Centerless Ground to extreme accuracy. Special new-type Equipment, assures concentric chamfered or formed ends—no cut-off burrs.

Dowel—Straight—Countersunk—Angle and Spherical Ends .020" to .1875" Diam .125" to 2" Length

Precise Specifications Accurately met. If requested on order, a surface analysis tape, showing surface in micro-inch measurements, will be furnished. Tape magnifies 39,370 times.

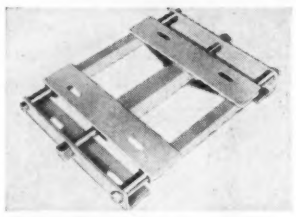
Small orders or volume production to your exact requirements and material specifications.

Quality Precision Work!
Prompt Deliveries!
Prices you will like!
SEND US PRINTS FOR QUOTATION

COMMERCIAL CENTERLESS GRINDING COMPANY
6605 CEDAR AVE., CLEVELAND 3, OHIO
Phone: ENdicott 1-3412

▲ For more details circle NED-259 H1 on enclosed inquiry slip ▲

AUTOMATIC MOTOR BASE simplifies belt tension adjustment

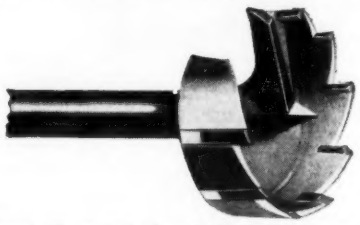


Welded tension-controlling Manheim Automatic motor bases have free-moving carriages and are adjusted by turning a screw. Series 100 base is available in standard and vertical types for 19 NEMA frame sizes 56 to 326-U. A self-contained spring compensates for belt stretch and maintains proper tension. Series 200 for spring-loaded variable pitch pulley drives is offered in the same sizes. A BB Series has linear ball bearing carriage for large motors in NEMA frame sizes to 445-U. Special bases can be made for up to 500-hp motors. • **Manheim Mfg. & Belting Co.**, Manheim, Pa.

▲ For more details circle NED-260 H1 on enclosed inquiry slip ▲

CARBIDE TIPPED SPUR BIT in sizes for holes to 4 in.

Greenlee Multi Spur Bits are now being tipped with carbide to extend their life and also facilitate cutting hard, abrasive materials such as hardboard, plastic laminates, hardwood plywood, and sheet metal. Bits are stocked in diameters up to 4 in. They are usable in spindle machines as well as in portable tools. • **Woodworkers' Tool Works**, 222 S. Jefferson St., Chicago 6, Ill.



▲ For more details circle NED-261 H1 on enclosed inquiry slip ▲

PLASTIC BOTTLES in 500-cc to 5-gal capacities

Broad range of blow-molded plastic containers includes the wide-mouth bottles shown which are designed primarily for granular and powdered products.

These bottles are available in 1-pt to 5-gal sizes. Also offered in the same sizes is a handle bottle with a 38-mm pouring spout. Neck is offset to facilitate pouring. Other stock containers include capacities from 500 cc to 5 gal. All are threaded for two revolutions of the cap to prevent leaking. Colored bottles can be ordered. • **Air Formed Products Corp.**, 30 Pine St., Nashua, N. H.

▲ For more details circle NED-262 H1 on enclosed inquiry slip ▲

High heat paint problems? Use Heat-Rem H-170 up to 1700°...18 colors

Are you working out a problem with a surface that's "too hot to paint"? Heat-Rem H-170 may be the answer.

Available in 18 high heat resisting shades, it permits color coding or complete finishing of metal components subjected to temperatures from 600° to as high as 1700° (depending on color used). Typical applications are jet missile tubes, rocket motors, pressure furnaces, condensors, etc.

Heat-Rem H-170 virtually fuses with hot metal surfaces . . . forms a bright finish that's resistant to moisture, mild acids, alkalis and industrial fumes. Write for full details, requesting bulletin L-9240. A-2214A

SPECO INC. Cleveland 9, Ohio

▲ For more details circle NED-263 H1 on enclosed inquiry slip ▲

New from AO

Unit Type First Aid Kits You Can REALLY SEE When You Need Them

Four first aid kits—in 10, 16, 24 and 36 unit sizes—designed for easy location in an emergency. Blaze-orange lettering on the cases *really* stands out. Built for rough handling, the 20-gauge steel cases have reinforced, electrically welded joints, rubber gaskets to seal out dirt, moisture. Carrying handle, wall brackets, snap locks provided. Only highest quality sterile dressings are used, wrapped individually in clearly-marked packages. Printed sheet to show location and give instructions for use, serves as check list for reordering.

Your Surest Protection . . . AO SURE-GUARD Products

American Optical COMPANY
SAFETY PRODUCTS DIVISION
Southbridge, Massachusetts

Safety Service Centers in Principal Cities

▲ For more details circle NED-264 H1 on enclosed inquiry slip ▲

RED GIANT: *Rugged, Dependable—Year after Year*

Red Giant Hand Lift Trucks are available in eight basic models and with a range of sizes and capacities in each model.

Tremendous strength without excessive weight, all steel construction, electric arc welded members, long bearing surfaces, and most of all, the simple and correct design, enable these Red Giant Lift Trucks to stand up under constant use—even abuse—year after year.

Smooth operation, a non-kicking, spring-balanced handle for complete safety—these are some of the features which make RED GIANT the most practical truck of its kind.

INDEX No. 51.15
Red Giant Model K. Job tested handling skids of building materials on skyscraper construction projects. Capacity 1500 lbs. Hydraulic lowering check.

INDEX No. 51.13
Red Giant Model J for movement of skids. Two stroke mechanical lift eases effort required to lift load. Capacities 2500 lb. and 4000 lb.

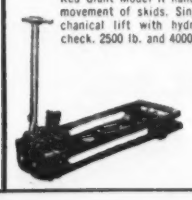
INDEX No. 51.14
Red Giant Model S fully hydraulic lift and lowering. For movement of skids. In capacities of 2500 lb. to seven and one half tons.

INDEX No. 51.21
Red Giant Model JKT for handling single faced pallets. Mechanical lift and hydraulic lowering check. Capacities 2500 lb. and 4000 lb.

INDEX No. 51.22
Red Giant H2½VP fully hydraulic lift and lowering for two faced pallets. Separate pump handle for lifting in limited space. Capacity 2500 lbs.

INDEX No. 51.22
Red Giant hand lift truck for two or three ton loads on two faced pallets. Fully hydraulic lift and lowering. Capacities 4000 lb. and 6000 lb.
Model SVP

INDEX No. 51.12
Red Giant Model H hand lift truck for movement of skids. Single stroke mechanical lift with hydraulic lowering check. 2500 lb. and 4000 lb. capacities.



REVOLVATOR CO.
ESTABLISHED 1904

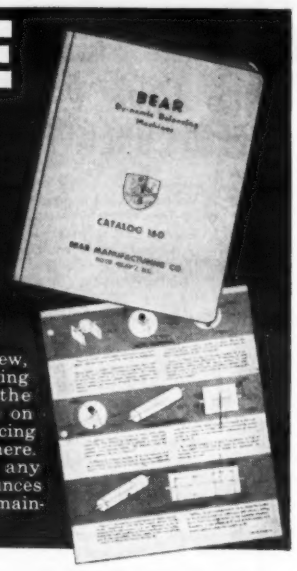
Designers and Manufacturers of Portable Elevators, Power and Hand Lift Trucks, Hydraulic and Traction Elevators, Carboy and Barrel Dumpers, Portable Cranes, Positioners, Storage Racks, Turntables and Other Material Handling Equipment.

8732 Tonnele Ave.
NORTH BERGEN, NEW JERSEY

Sales Representatives in Leading Centers

▲ For more details circle NED-265 H1 on enclosed inquiry slip ▲

FREE
NEW BEAR BALANCING CATALOG



New Loose-Leaf Design — 32 pages packed with information and technical data to help you select the RIGHT Balancer for the job!

Just off the press! Bear's new, complete Industrial Balancing Catalog No. 160. One of the most complete directories on static and dy-namic balancing machines available anywhere. Shows models balancing any moving part from a few ounces to tons, production line or maintenance balancing.

Contents:
- Static and dy-namic unbalance explained
- Principles of operation
- Forces created by unbalance
- How to choose and order balancers
- Production line balancing machines
- Maintenance type balancers
- Variety of applications
- Specially built balancers

BEAR®

Now the Most Complete Line of Balancing Machines for **PRODUCTION LINE and MAINTENANCE BALANCING**
WRITE TODAY! BEAR MFG. CO., Dept. N-2, Rock Island, Illinois

▲ For more details circle **NED-266 H1** on enclosed inquiry slip ▲

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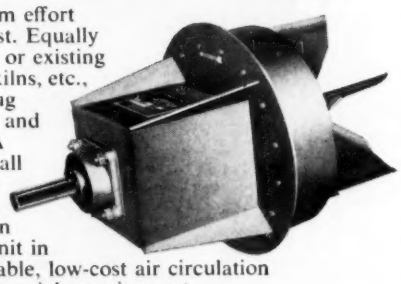
dependable, continuous air-movement in temperatures up to 2000° F.
WITHOUT DUCTWORK!



. . . with minimum effort and minimum cost. Equally adaptable to new or existing furnaces, ovens, kilns, etc., Thermal-Aire Plug Units are quickly and easily installed. A hole in furnace wall to receive the fan wheel is the only requirement. Then simply bolt the unit in place for dependable, low-cost air circulation . . . matched to *your* job requirements.

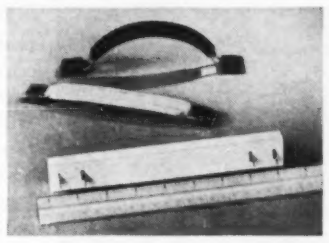
Write today for Bulletin 960

Thermal·aire plug units

Garden City Fan & Blower Co., 835 N. Eighth St., Niles, Mich.

▲ For more details circle **NED-267 H1** on enclosed inquiry slip ▲

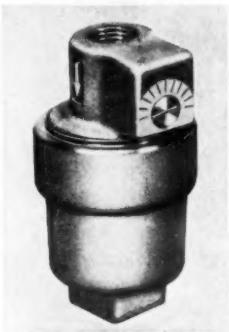
HANDLE ASSEMBLIES
made in 20 finishes and two metals



Chamber of air sealed into the soft vinyl handle provides Vinylux handle assemblies with suppleness and hand comfort. Strength is furnished by a concealed steel core that is double-riveted to end rings. Designed for portable equipment and instruments, they have a simulated leather texture and matching debossed stitching. Steel or solid brass hardware is available in any of 20 finishes. Stay-up and automatic retraction types have handle length of 6 in. and over-all length of 8 in. • **Philadelphia Handle Co.**, 1643 Haddon Ave., Camden 3, N. J.

▲ For more details circle **NED-269 H1** on enclosed inquiry slip ▲

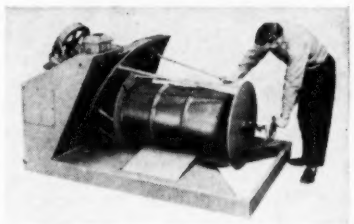
LOW FLOW RATE REGULATOR
holds 0.1 to 3-gpm rates constant



Liquid flow rates from 0.1 to 3 gpm are automatically held constant by this Fix-A-Flo regulator regardless of line pressure variations. Half a turn of the adjusting screw sets the flow rate within ±5 per cent of set point. Unit handles all types of liquids, including lubricating and fuel oils and process additives. It has straight-through flow design and is installed in any position. Made of 18-8 stainless steel, regulator withstands internal pressures to 1000 psi, operates at 9 psi or less, and has maximum inlet-to-outlet pressure drop of 125 psi. • **W. A. Kates Co.**, 430 Waukegan Rd., Deerfield, Ill.

▲ For more details circle **NED-270 H1** on enclosed inquiry slip ▲

DRUM CONTENTS MIXER
takes 55-gal drums weighing 1000 lb



Rotary oscillating motion of the Model 2155 NiMixer effectively mixes and blends paint, sound deadeners, glazing compounds, abrasives, plastics, and other difficult materials. It accommodates materials in 55-gal drums weighing up to 1000 lb, reportedly mixing them in about one-half the time required by other methods. Products are mixed without removing the cover at 30 rpm, and with no vibration. Operation is on 220/440 v, three-phase, 60-cycle ac. • **National Industries**, 1162 Lewis St., Jackson, Mich.

▲ For more details circle **NED-271 H1** on enclosed inquiry slip ▲

MODERNIZE PARTS STORAGE . . . MORE ACCESSIBLE TO ASSEMBLY!
Low-Cost Flexible Stackbin System Saves Space, Time and Labor

Stackbin®-Stackrack® Combinations are the ideal way to minimize parts, tools, materials handling. Stackbins are portable containers, so you can carry materials throughout your process without transferring contents to any other container. Stored in Stackracks, every Stackbin is instantly accessible when it's needed. You never disturb another bin. Hopper fronts on Stackbins provide visibility and accessibility to the materials. Available in 7 sizes, Stackbin-Stackrack Combinations make most efficient use of floor space. With inexpensive Adapters any small units can be stacked on larger units. Related items can be kept in one place. Individual units lock together: no tools, no setup time needed.

WRITE FOR NEW CATALOG

All Stackbin Products Sold Direct
STACKBIN CORPORATION
1081 Main St., Pawtucket, R. I.

Mfgd. and sold in Canada exclusively by Wickware-Stackbin, Ltd., Perth

STACKBIN® SYSTEM
"Stacked and Still Accessible"

▲ For more details circle **NED-272 H1** on enclosed inquiry slip ▲

Bright New Star on the Sweeper Horizon
The All-New Wayne **STARSWEEP 1054!**

Wayne—world's leading name in sweepers—presents the super-rugged, powerful new **STARSWEEP 1054** . . . *the most important advance in Power Sweeping ever made!* This husky, compact, maneuverable, built-to-last beauty has every feature you've ever wanted . . . exclusive *job-engineered* features that make Power Sweeping pay for itself as never before! With its 62" sweeping swath and 16 cubic foot hopper capacity the **1054** is the biggest Power Sweeper made. You sweep the biggest areas—acres outside and miles of aisles inside—with ease and speed. **STARSWEEP'S** exclusive new hydra-mechanical drive provides both *infinitely variable* travel speeds (0-12 MPH) and *constant* broom and vacuum blower speeds for super-efficient sweeping.

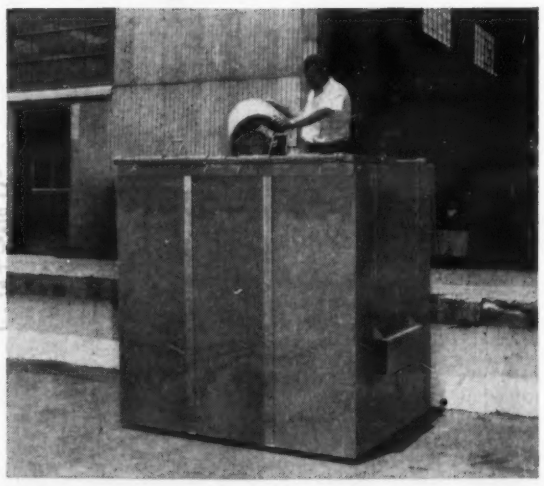
Full-floating main and hydraulically driven side brooms adjust automatically to every sweeping condition. 54" expandable main broom can be changed in minutes *without tools*. **STARSWEEP'S** exclusive new Filter-Vac enclosed dust control system with huge 78 square foot filter area provides the ultimate in dust-free operation under all conditions . . . disposable filters are cleaned with the flick of a lever. Convenient automotive controls assure quick, safe, efficient and comfortable operation.

There is so much *more* to tell . . . *more* in sweeping ability, performance, economy, dependability, local parts and service. Get the facts. See and compare. Find out for yourself how the **STARSWEEP 1054** can save you time and money. The full story is yours for the asking. ***Write for the new Starsweep brochure today.***

WAYNE
WAYNE MANUFACTURING CO.
main office and plant
2000 EAST LEXINGTON STREET, POMONA, CALIFORNIA
branch offices:
ATLANTA • CHICAGO • NEWARK

▲ For more details circle **NED-273 H1** on enclosed inquiry slip ▲

NOW! You Can End Refuse Storage Problems... WITHOUT Capital Outlay



DUMPMASTER-Equipped Private Haulers Provide Containers and Efficient Service

If you're plagued with trash piles, scattered refuse, fire hazards, and hit-or-miss collection, there's a good chance you can do something about it . . . WITHOUT CAPITAL OUTLAY!

In most major cities DEMPSTER-DUMPMASTER-equipped private haulers will put clean, big-capacity storage containers at convenient locations in your plant . . . empty them mechanically on schedule, or on a call-in basis . . . all for a reasonable monthly fee.

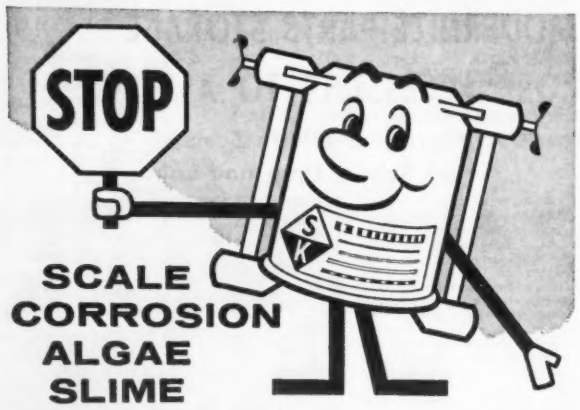
When you containerize your refuse, plant housekeeping becomes easy, employee morale goes up.

Write today for the name of your nearest private hauler. We'll also send literature describing his service.

Write Today for Free Brochure and Name of Nearest Private Hauler

DEMPSTER BROTHERS Inc.
Dept. NE-8, KNOXVILLE 17, TENNESSEE

▲ For more details circle **NED-268 H1** on enclosed inquiry slip ▲



with S-K ASSURED PREVENTIVE MAINTENANCE

Where scale, corrosion, algae and slime are day-to-day problems . . . with Stiles-Karlsonite products for *assured preventive maintenance* . . . you'll increase the overall efficiency of all your equipment . . . reducing operating costs.

Through Karlsonite—a low cost efficient water conditioner—elements in water that prove harmful and damaging to equipment are suspended and inactivated. You get crystal clear . . . non-corrosive . . . non-clogging . . . non-precipitating water . . . *always* at lowest cost!

Write today for new 24-page brochure . . . with the full story.

STILES-KARLSONITE CORPORATION
DEPT. SKC WAUKEGAN, ILLINOIS

▲ For more details circle NED-274 H1 on enclosed inquiry slip ▲

Arno® STRAPPING TAPE

saves BUNDLING TIME

The fast, easy way to bundle for shipping or handling. Arno Strapping Tape is quick to apply, simple to remove—yet holds securely. High tensile strength (210 lbs./inch width) of the rayon reinforcement and strong adhesion of the pressure-sensitive adhesive also make this tape a time-saver for packaging and palletizing.

WRITE FOR FREE TEST SAMPLE

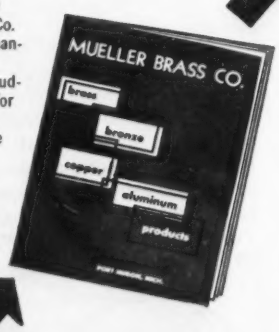
Manufacturers Agents Wanted for Some Selected Areas

Arno® ADHESIVE TAPES, INC.
Dr. Scholl's Adhesive Tape Division
5222 OHIO STREET, MICHIGAN CITY, INDIANA

▲ For more details circle NED-275 H1 on enclosed inquiry slip ▲

THIS MANUAL GIVES YOU THE FACTS ABOUT **ONE DEPENDABLE SOURCE** FOR A WIDE VARIETY OF BRASS, BRONZE AND ALUMINUM PRODUCTS.

This manual contains technical information on Mueller Brass Co. production processes for the manufacture of brass, bronze and aluminum fabricated parts including forgings, special alloy rod for screw machine products, impact extrusions, formed tube assemblies, sintered metal parts and plastic parts as well as products for the plumbing and heating and the refrigeration and air conditioning industries. Send for your copy today.

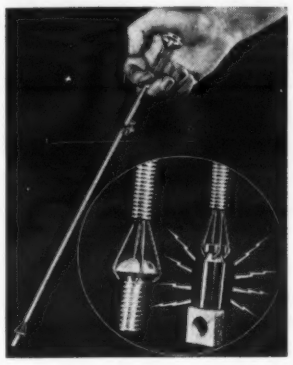


314

Please send me Mueller Brass Co. Manual No. FM 3017.
Name_____
Firm_____
Address_____
City_____ State_____

MUELLER BRASS CO.
PORT HURON 37, MICHIGAN

PARTS RETRIEVER uses wire claws or magnet



Screws, tools, components, and other objects are recovered from relatively inaccessible places with this Dual Manual-Magnetic Retriever. It consists of a 13-in. flexible shaft and four steel wire claws which are operated by a spring plunger. The claws grip any object when the plunger is manipulated. An accessory magnet can be gripped in the claws for recovering ferrous or magnetic items. Price is $2.95. • **Borroughs Tool & Equipment Corp.**, 2429 N. Burdick St., Kalamazoo, Mich.

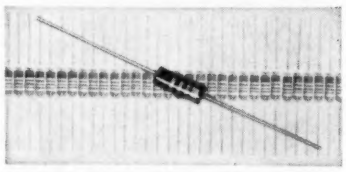
▲ For more details circle NED-276 H1 on enclosed inquiry slip ▲

POWDER-ACTUATED STUD DRIVER for fastening in steel and concrete

Blow with a 3-lb hammer is augmented by a slow-burning blank charge in providing low velocity power for the DX-500 Power-Assisted drive tool. Slow forward movement of a piston safely drives 3/8, 5/16, or 1/4-in. studs or heavy duty pins into steel and concrete. Applications include electrical, plumbing, heating, air conditioning, window, and curtain wall installation. Fasteners have a premounted washer which affords guidance during driving and assures stopping at a predetermined depth. Tapered in shape for maximum holding power, the alloy fasteners are rustproofed. • **Hilti, Inc.**, 73 Southfield Ave., Stamford, Conn.

▲ For more details circle NED-277 H1 on enclosed inquiry slip ▲

WIRE WOUND RESISTORS range is 0.24 to 1000 ohms



Reported to outperform comparable fixed composition units, BWH molded wire wound resistors have inherent stability, reliability, and long life. They meet or exceed MIL-R-11C performance requirements. Units are available in ±5 and ±10 per cent tolerances in accordance with standard EIA resistance values in resistances of 0.24 to 1000 ohms. The molded housing protects the element from climatic extremes. • **International Resistance Co.**, 401 N. Broad St., Philadelphia 8, Pa.

▲ For more details circle NED-278 H1 on enclosed inquiry slip ▲

One man does it all with MORSE *Barrel-Lift*

All five drum handling operations—raising, transporting, rotating, tilting and draining—are a one-man job with Morse Barrel-Lift. Keeps 55-gallon steel drums under full control. You save on spilling, overflowing, leakage, damage to drums and accidents. All steel welded construction.

Model 80

Won't tip, Won't spill, Won't leak

Move your drums the MORSE *Drum-Karrier* way

The Morse Drum-Karrier Model 85 fits all standard drums, permits one-man operation, is instantly removable from hoist hook. Positive tilt lock holds drum in position. Welded, all-steel construction; accommodates standard double chine steel drums 23" diameter, 36" height.

Model 85

You Can Move It Better With Morse—for full information, write today!

MORSE MANUFACTURING CO., INC.
756 West Manlius Street, East Syracuse, N. Y.

▲ For more details circle NED-279 H1 on enclosed inquiry slip ▲

SPECIAL TOOLS FOR SPECIAL JOBS 3

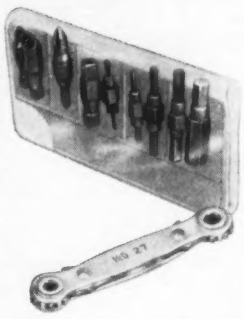
NEW OFFSET RATCHET BIT SET SPEEDS CRAMPED ASSEMBLY WORK

Combination of reversible, double-ended ratchet wrench and short bits fit where most regular tools cannot—permits you to do difficult jobs quickly, easily. The bits are designed to hold securely even for upside-down work. All parts are top quality tempered steel for long service, hard use.

The No. 27SG set has these nine bits, shown from left to right, to handle almost any production fastener:

- Phillips head screwdriver for smallest through No. 9 sizes
- 3/8-in.-wide screwdriver blade
- 3/64 and 3/32 in. hex keys
- .050 and 1/16 in. hex keys
- 1/8 and 5/32 in. hex keys
- 1/4-in.-wide screwdriver blade
- 3/16 and 7/32 in. hex keys
- 1/4-in.-square drive adaptor
- 1/4 and 5/16 in. hex keys

(No. 27 set with four—No. 27SM with five—assorted bits also available)



Another special tool for a problem job in industry by K-D, the nation's largest maker of special tools for professional auto maintenance.

Watch for the solution to your problem

K-D TOOLS *Making Hard Jobs Easy Since 1919*

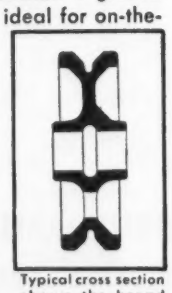
K-D MANUFACTURING COMPANY
Lancaster, Pa.

▲ For more details circle NED-280 H1 on enclosed inquiry slip ▲

Off-the-floor angle iron caster operation is clean, practical and inexpensive.

• Albion heavy duty V-groove casters offer greater utilization of floor space—easier, safer, more economical handling of heavy loads, protect flooring and speed production line operations.

Designed for use on inverted angle track—for any service requiring complete control of the truck or conveyor unit, Albion V-groove *self-cleaning* casters are also ideal for on-the-floor operation. And . . . only Albion offers a *complete* range of wheel sizes from 4", 5", 6", 8" and 10" diameters in full swivel or rigid models with a choice of wheel bearing types, capacities from 500 to 15,000 pounds and special features to suit your needs. Remember . . . specify Albion casters and wheels for guaranteed quality and economy.



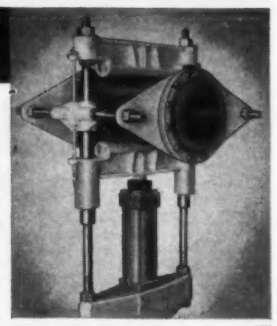
Typical cross section shows the broad V-groove and load equalizing relief groove.

Contact your nearest Albion representative or write direct

ALBION INDUSTRIES, INC.
ALBION, MICHIGAN

▲ For more details circle NED-281 H1 on enclosed inquiry slip ▲

NEW



automated PINCH VALVE SYSTEMS

Controlled circuitry for any operating requirements.

The Massco-Grigsby Hydral-60 System consists of one or more pinch valves with a single automatically operated hydraulic pump. The pump may be operated by electric motor or by air from normal plant supply system. Valves may be coordinated and interlocked with other plant equipment to automatically control tank levels, etc.

3" to 14" I.D.; 50, 100, 150 psi; up to 200° F.

Rubber and neoprene sleeves for corrosive and abrasive pulps and liquids.

Write for NEW CATALOG No. 609

OFFICES AND AGENTS IN PRINCIPAL CITIES

MINE & SMELTER SUPPLY CO.

3800 RACE STREET—DENVER 16, COLORADO

For more details circle NED-282 H1 on enclosed inquiry slip

THREE SERIES

MARSH *Needle Valves* for every service

1 ALLOY STEEL

2 316 STAINLESS STEEL

3 416 STAINLESS STEEL

Now—with the addition of a 316 stainless steel series—you have a Marsh Needle Valve for almost any purpose or service. Full range of sizes and patterns. Wide range of pressures and temperatures. All are machined from solid bar stock. All have precision ground stems for close regulation—tight shut-off. All have "Marpak" moulded packing; Teflon in stainless steel valves.

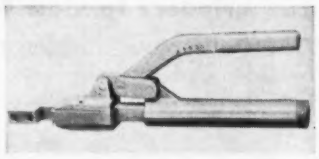
Ask for bulletins covering full line.

MARSH INSTRUMENT COMPANY
Dept. 26, Skokie, Ill.
Division of Colorado Oil and Gas Corporation

Marsh Instrument & Valve Co. (Canada) Ltd., 8307 103rd St., Edmonton, Alberta, Canada. Houston Branch Plant 1121 Rockwell St., Sect. 15, Houston, Texas. Eastern Seaboard Warehouse: Marsh Instrument Company, 1209 Anderson Ave., Fort Lee, N.J.

For more details circle NED-283 H1 on enclosed inquiry slip

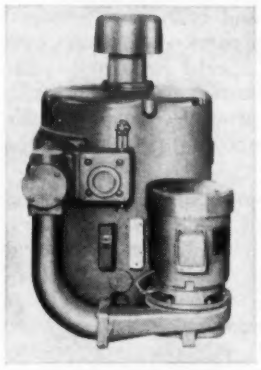
STUBBORN NUT REMOVER accommodates ½ to 2-in. face sizes



Tight, rusted, or "frozen" nuts and bolts are removed easily with this Nut Gripper. The self-locking grip holds fastener with 7000-lb clamping force for quick one-man removal. Adjustable jaws take ½ to 2-in. across-the-face sizes. Tool is made of heat treated tool steel with reversible jaws for long life. • **Rodgers Hydraulic, Inc.**, 7401 Walker St., Minneapolis 26, Minn.

For more details circle NED-285 H1 on enclosed inquiry slip

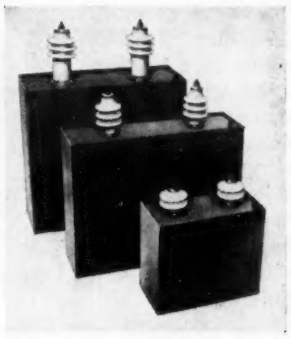
INDUSTRIAL VACUUM PUMP capacities range to 350 cfm



Usable as a combination air pump and direct contact condenser, as a liquid scavenger, or as a combination vacuum-condenser-pressure unit, this Centrivac vacuum pump is made in capacities to 350 cfm at pressures as low as 4 mm Hg absolute. The multijet vacuum producer has no moving parts, and nonpulsating suction is maintained without an accumulator or equalizing tanks. Motor is protected from water and dirt in this quiet-operating unit. • **Domestic Pump & Mfg. Corp.**, Shippensburg, Pa.

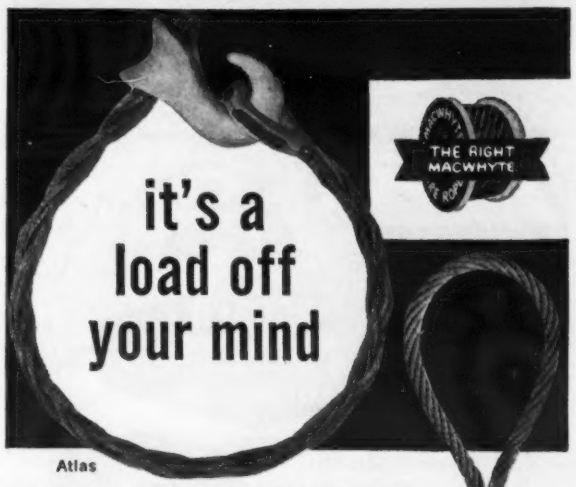
For more details circle NED-286 H1 on enclosed inquiry slip

HEAVY-DUTY CAPACITORS in ten ranges from 10 to 60 kv dc



High voltage filtering in power supplies, voltage doubling circuits, communication receivers and transmitters, x-ray equipment, and other electronic applications is performed by heavy-duty Type RA capacitors. Available in ten ranges from 10 to 60 kv dc, units are designed for 10,000-hr operation without derating at 85° C. They are also suitable for use from −55 to 115° C. Units have welded 18-gage steel containers, salt and humidity resistant coatings, and glazed porcelain terminal bushings spaced to eliminate flashover. Capacitors are impregnated with chemically pure, high viscosity polybutene oil to withstand high voltage stress with safety. • **Corson Electric Mfg. Corp.**, 540 39th St., Union City, N. J.

For more details circle NED-287 H1 on enclosed inquiry slip



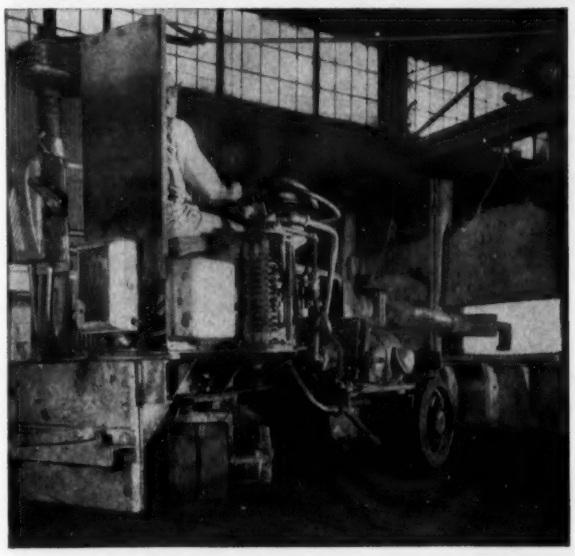
—when your sling is the right Macwhyte

There are Macwhyte slings for all your load-handling — for a safe, sure grip. Atlas round-braided, Drew flat-braided, and Safe-Guard cable-laid slings are flexible, lightweight, kink-resistant. Also slings designed for your special needs. For complete information and capacity tables, ask for Bulletins 5308-R and 5886 Macwhyte Wire Rope Company, 2900 Fourteenth Avenue, Kenosha, Wisconsin.

254

MACWHYTE

For more details circle NED-288 H1 on enclosed inquiry slip



New B.F.Goodrich industrial tires put a damper on hot-steel handling problems

Jessop Steel Co. gets 3 times more tire service by following TW Analysis Man's advice

Razor-sharp steel scrap, red-hot scale and oil once were a terrific problem to Jessop Steel Co., Washington, Pa. Ordinary tires on the Auto-Floor Charging machine (used to deliver steel bars to the heat treating furnace and rolling mill) were torn to pieces in 2 months. Tire costs skyrocketed.

Then Jessop called the B.F.Goodrich Tire & Wheel Analysis Man. He studied the problem, then recommended B.F.Goodrich Novitane tires made of a new BFG-developed polyurethane compound that shrugs off the materials which kill regular tires. The Novitane tires pictured have worked over 5 months. Try to find a sign of wear on them.

This is typical of the savings B.F.Goodrich Tire & Wheel Analysis Men offer. Without cost or obligation, the TW Analysis Man will study your setup. Then he'll recommend the BFG tires that will give longest service at lowest cost—advice that is unbiased because B.F.Goodrich makes a complete line of industrial tires. Take advantage of this free BFG service. Mail the coupon today.

A special B.F.Goodrich consulting service is available to manufacturers of materials handling equipment.

B.F.Goodrich

Specify **B.F.Goodrich tires when ordering new equipment**

The B.F.Goodrich Company
Department TW-848
Akron 18, Ohio

Please send me additional information on your free Tire and Wheel Analysis Plan.

Name_____
Company_____
Street_____
City_____ Zone____ State____

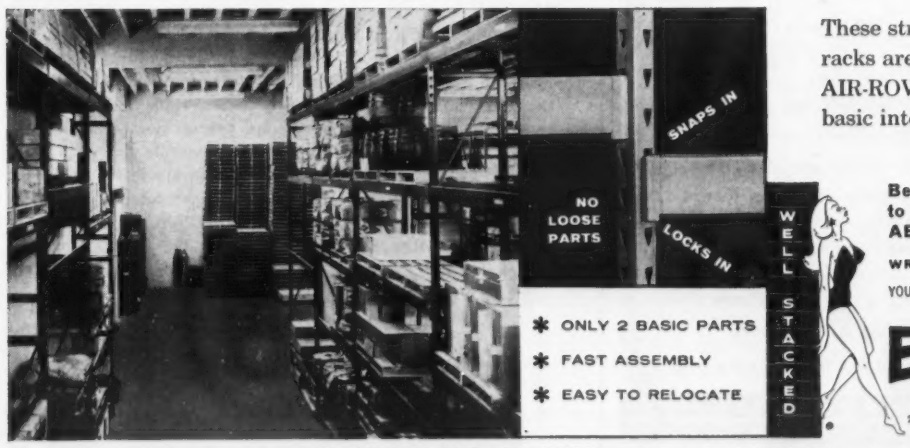
For more details circle NED-289 H1 on enclosed inquiry slip

FLEXIBILITY

EMI *air-row head pallet racks*

the most flexible, cost saving and work saving racks in the industry.

EMI *air-row head DRIVE-IN RACKS* • **EMI** *air-row head DRIVE-THRU RACKS*



These strong, efficient, space-saving racks are all engineered on the AIR-ROW Head principle with basic interchangeable parts.

Before you build, remodel or add to a storage area, FIND OUT ABOUT AIR-ROW HEAD RACKS

WRITE FOR DETAILED INFORMATION

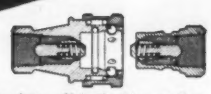
YOU CAN STACK ANYTHING ON **EMI** RACKS

EQUIPMENT MFG. INC.

21550 HOOVER ROAD • DETROIT 5, MICHIGAN

For more details circle NED-284 H1 on enclosed inquiry slip

● To connect a Hansen Two-Way Shut-Off Coupling, merely pull back the sleeve on the Socket and push in the Plug. To disconnect, just pull back the sleeve. Furnished in brass or steel with female pipe thread connections from 1/8" to 1 1/2" inclusive. Also available in sizes up to 1", in stainless steel.



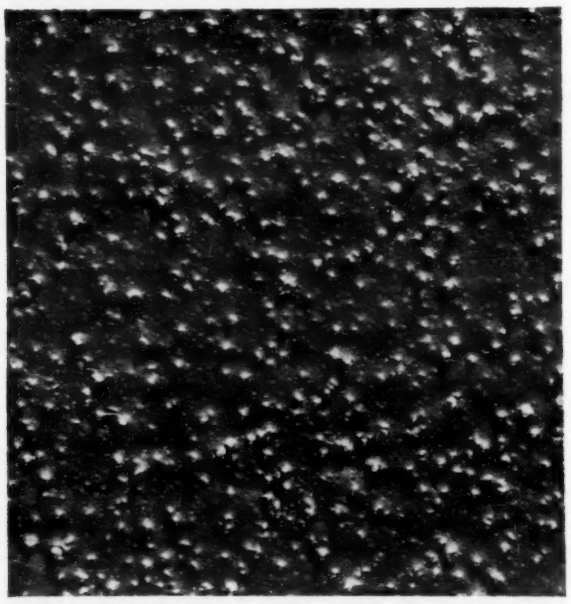
Instantly shuts off both sides of line... prevents loss of liquid, gas or pressure.

Write for the Hansen Catalog... a ready reference when you want information on couplings in a hurry.

Representatives in Principal Cities

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

For more details circle **NED-290 H1** on enclosed inquiry slip



This is Grip Tread Mastipave...world's toughest low-cost safety flooring. It stops slips with a special traction surface. Cleans easily. Lasts for decades. Free folder is yours for the writing:

DEPARTMENT NE PABCO FLOOR COVERING DIVISION, FIBREBOARD PAPER PRODUCTS CORPORATION, 475 BRANNAN STREET, SAN FRANCISCO, CALIFORNIA

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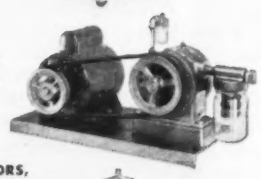
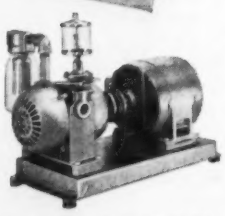
OIL-LESS AIR COMPRESSORS, VACUUM PUMPS, .35 TO 24 C.F.M.

INTEGRAL-MOTOR AIR PUMPS .6 TO 3.8 C.F.M.

LIGHT-DUTY MODELS, .6 TO 24 C.F.M. V-BELT OR COUPLING



HEAVY-DUTY AIR COMPRESSORS, VACUUM PUMPS, 4 TO 50 C.F.M.



GAST VACUUM PUMPS and AIR COMPRESSORS

Extra dependability for plant use . . . for O.E.M.

Need a source of low pressure air or moderate vacuum? Check with Gast! Save money, time, effort in choosing the best air pump for your job.

Precision quality and rotary design provide outstanding dependability. Vanes take up their own wear . . . maintaining like-new performance. Quiet, non-pulsating air . . . no tank needed! Oil-less or lubricated models—direct coupling, V-belt or integral-motor drives. Sizes from 1/40 to 5 h.p., .35 to 50 c.f.m. Vacuum to 28" Hg, pressure to 30 p.s.i.g.

WRITE TODAY FOR CATALOG! If you can, specify pump type you need.

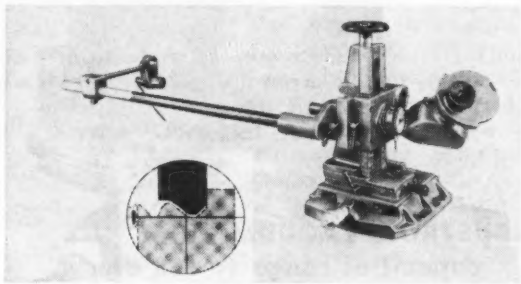
AIR MOTORS • VACUUM PUMPS • COMPRESSORS

GAST MANUFACTURING CORP.
P. O. BOX 117-R, BENTON HARBOR, MICH.

For more details circle **NED-292 H1** on enclosed inquiry slip

VISUAL GRINDING ATTACHMENT
installed on surface and cylindrical grinders to view form grinding

Continuous optical inspection through all stages of irregular and intricate form grinding is provided by the Profiloscope, an independent optical unit for at-

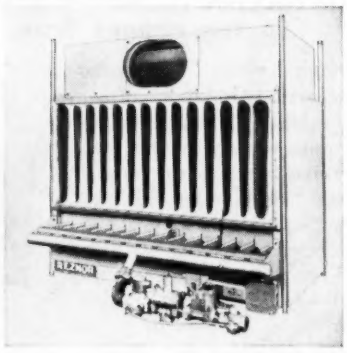


tachment to standard surface and cylindrical grinders. Width, depth, and coordinate checks are made with readings within 0.0002 in. on special form tools. Instrument consists of a microscopic eyepiece through which are seen the wheel and workpiece magnified 25, 50, or 100 times and superimposed over the desired form on a reticle.

Six standard reticles are contained in a rotating turret head, marked with male and female radiuses, angles, and horizontal and vertical lines. Special reticles can be supplied. Also available is the Projectorscope that performs the same function, except that the field of vision is projected onto a large screen. ● **Parker-Hartford Corp.**, 650 Franklin Ave., Hartford, Conn.

For more details circle **NED-293 H1** on enclosed inquiry slip

MODULAR DUCT FURNACES
four new sizes make total of eight



Distribution air passing through the DS Series of modular duct furnaces comes in contact only with rust resisting metals such as aluminized steel or optional Type 321 stainless steel. AGA-approved furnaces for downstream installation from cooling coils in year-around air conditioning systems also are approved for temperature rises from 20 to 100° F. Modulating input ranges down to 20 per cent. Condensation shields for burner protection, hooded pilots, and drain pans with drain connections are standard. Ratings of 175,000, 225,000, 275,000, and 350,000 Btu input are added to four previously available 150,000 to 300,000-Btu units. Optional dual fuel units provide for use of propane as a standby fuel. ● **Reznor Mfg. Co.**, Mercer, Pa.

For more details circle **NED-294 H1** on enclosed inquiry slip

Pyles AIR-OPERATED SEALANT GUNS

reduce material waste up to 75%

Save TIME, MATERIAL and MAN HOURS with PYLES high efficiency equipment.

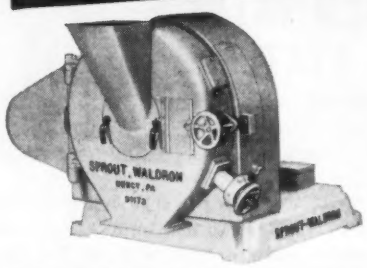
- **Quality built for long service.**
- **Ideal for two-part compounds.**
- **Sturdy, all-metal construction.**
- **Disposable polyethylene liners save cleaning.**
- **Smooth, uniform flow. Dripless shut-off.**
- **Lightweight, easy handling.**
- **Uses standard air supply.**

Write for detailed literature and prices.

PYLES INDUSTRIES, INC.
20855 TELEGRAPH RD • DETROIT 41, MICH

For more details circle **NED-295 H1** on enclosed inquiry slip

SPROUT-WALDRON PELLET MILLS



Pelleting minimizes dusting; helps preserve original moisture content, chemical analysis and other properties; turns difficult to handle powders into free-flowing material which is easy to dry, cool, bin, sack and package; reduces storage space; adds sales appeal. For economical pelleting, specify a S-W Pellet Ace. Bulletin 182-A gives the facts.

EP/101

SPROUT-WALDRON
Manufacturing Engineers Since 1866
MUNCY, PA.
EQUIPMENT FOR SIZE REDUCTION—MIXING & BLENDING — BULK MATERIALS HANDLING — PELLETING & CUBING — PRODUCT CLASSIFICATION

For more details circle **NED-296 H1** on enclosed inquiry slip

FOR HEATING SURFACES

CARTRIDGE, TUBULAR, STRIP, VANE, OR INSERTION . . . there are General Electric heaters for every surface heating job. Insert them into, or cast them in, or clamp them on the surface to be heated. For "spot" *or* large-surface heating, select a G-E Calrod® heater . . . models available 300 to 5000 watts in General Electric's complete line of heating equipment.

FREE 48-PAGE CATALOG with completely indexed heaters and heating control prices, application tips, tables, and curves. Write Section 757-06, General Electric Co., Schenectady 5, N. Y.

GENERAL ELECTRIC

For more details circle **NED-297 H1** on enclosed inquiry slip

FREE "SLIDE GUIDE"

...new aid to paint buyers!

This new and unique quick reference guide to Barreled Sunlight Engineered Exterior and Interior Paints is sent *free on request*. Handy "slide rule" indicator pinpoints the answers to scores of questions on available finishes, colors, thinners and primers . . . also provides valuable data on recommended surface applications, special resistance features, drying time and square-foot coverage per gallon on over 40 different finishes. Measures only 10" x 4" to fit pocket . . . has space for owner's name. Write Barreled Sunlight Paint Company, 130-H Georgia Avenue, Providence 5, Rhode Island.

Barreled Sunlight ENGINEERED *Paints*

FOR A BETTER LOOKING, LONGER LASTING PAINT JOB AT LOWER COST

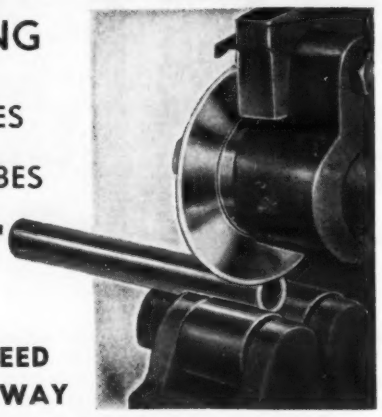
For more details circle **NED-298 H1** on enclosed inquiry slip

SUPER LOW-COST CUTTING

CUT PIPES AND TUBES

FAST

THE SUPER-SPEED ROTARY WAY



CONTINENTAL ROTARY CUT-OFF MACHINES

fast—cut lengths in just seconds

economical—up to 100,000 cuts per cut-off wheel

saving—no waste loss of your material.

Air or manual. 3/8" to 12 3/4" O.D. Request Catalog.

Machine Rental Plan Available.

Continental machine co. SINCE 1919

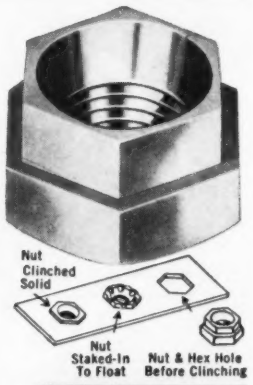
2345 W. NELSON ST. • CHICAGO 18, ILL.

For more details circle NED-299 H1 on enclosed inquiry slip

Use the exclusive

GRIPCO® Clinch Nut

for "fixed" fastening or "hard to reach" assemblies



For positive attaching of a threaded medium to thin metals. They are clinched solid for a rigid application, or staked in with a six point staking punch for a floating effect. Available with or without self-locking threads. Gripco Clinch Nuts can be clinched or staked with hydraulic or air equipment. Full details available—write for samples and NEW CATALOG today, or consult the yellow pages in your phone book under "GRIPCO" for the representative nearest you. 127

WITH GRIPCO FASTENERS YOU GET:

Service — 40 Sales representatives all over the country for prompt, fast service.

Reliability — Quality controlled by the oldest established lock nut manufacturer in the U.S.

Stock — Large inventories to ensure out of stock delivery on all catalogued items.

GRIP NUT COMPANY

Subsidiary of Heli-Coil Corporation, Danbury, Conn.

106 Maple Ave. • South Whitley, Ind. Phone: South Whitley 723-5111

For more details circle NED-300 H1 on enclosed inquiry slip

EXTRUDED PLASTIC PARTS BY HUNDREDS . . . OR MILLIONS

WE MATCH YOUR SPECS AND YOUR PRODUCTION SCHEDULES

We can produce in quantity any part made of extruded flexible vinyl plastic (illustrated) or of molded solid rubber. We have complete engineering and technical personnel for working with you on developing the design or redesigning a part, plus a long and successful performance record on quality and deliveries to schedule. Send drawing, sketch or part for prompt quote. Ask for illustrated folder.

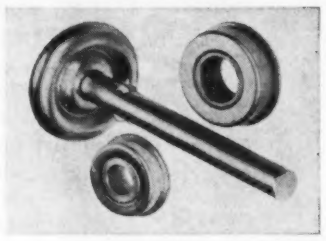
REPUBLIC RUBBER DIVISION

LEE RUBBER & TIRE CORPORATION, YOUNGSTOWN 1, OHIO

INDUSTRIAL RUBBER PRODUCTS

For more details circle NED-301 H1 on enclosed inquiry slip

SEMIPRECISION BEARINGS for medium duty, low rpm uses



Press formed construction is featured in this line of inexpensive semiprecision bearings, designed to handle both radial and thrust loads. They are usable in medium duty applications up to 3000 rpm under normal load conditions, and are easy to install. All races are carburized and hardened, and all balls are heat treated and accurately ground. Bearings are supplied with or without flanges in a 3/4 to 2-in. size range. • **Kendale Washer & Stamping Co.**, 5217 Sweeney Ave., Cleveland 27, Ohio.

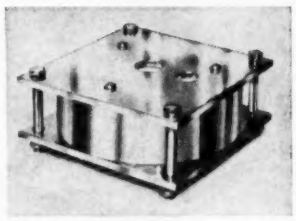
For more details circle NED-302 H1 on enclosed inquiry slip

ELECTRONIC TIMER has 0.06 to 120-sec timing ranges

Incorporating one vacuum tube and a sensitive plug-in relay, the Model HC-100 electronic timer affords an adjustable predetermined time delay or a predetermined time interval. Ratio between maximum and minimum time delay is generally 20 to 1, with higher ratios optional. Single-pole double-throw relay is rated at 5 amp resistive on 115 v ac. Timing ranges available are from 0.06 to 120 sec. Repetitive accuracy is ±2 per cent. Supply voltages up to 440 v ac or dc are available; standard unit is 115 v, 50/60 cycles ac. Size is 3 x 4½ x 6 in., and single unit price is $37. • **Syracuse Electronics Corp.**, Box 566, Syracuse 1, N. Y.

For more details circle NED-303 H1 on enclosed inquiry slip

SUBMICRON FILTER for heat, metal-sensitive products



Constructed of Teflon, the Model MF-30T submicron filter is designed so that the filtrate contacts no metal. It sterilizes and clarifies pharmaceutical and other products which are sensitive to heat or contact with any type of metal. Sterilization is effected by filtration through a Millipore MF membrane. Since Teflon withstands sterilization temperatures, the entire filter can be autoclaved before use. Flow rates range from 5 to 100 gph, depending on nature and pressure of fluid. • **Barnstead Still & Sterilizer Co.**, 278 Lanesville Terrace, Boston 31, Mass.

For more details circle NED-304 H1 on enclosed inquiry slip

CUT YOUR FLOOR MAINTENANCE COSTS!

AUTO-MATE

SCRUBBING
WAXING
POLISHING
BUFFING
STEEL WOOLING
DRY AND WET
VACUUMING

PRICED AS LOW AS $169.50

General INDUSTRIAL FLOOR MACHINES · VACUUMS

Made by Floor Machine Specialists . . . featuring many exclusive quality-engineered improvements. Portable in all sizes — for all types of floors.

MAIL COUPON NOW!

General Floorcraft, Inc.
3630 Rombouts Ave.
Bronx 66, N. Y.
Est. 1930

( ) Have Distributor call on us. NE-8

Send details: ( ) Industrial Floor Machine ( ) Vacuum

My Name..... Company.....

Street.....City.....Zone.....State.....

For more details circle NED-305 H1 on enclosed inquiry slip

ONLY $75

NOW-ONE WEEK DELIVERY

THIS FEDERAL MIKEMASTER has an easily read Indicator instead of the barrel graduations usually found on micrometers: There's no need to interpret a vernier. Finest measurements are read directly from Dial's clearly calibrated scale graduated in .0001". Mikemaster always *gages with same pressure.* You can gage *fast* since there's no need of carefully applying correct gaging pressure. If it's *duplicate* parts you're measuring, you'll find the push button retracting anvil and tolerance hands particularly useful, permitting tool to be used as an Indicating Snap Gage.

Mikemaster is built to last, with sturdiness to spare, and the measuring surfaces are lapped tungsten carbide. Ask to see it . . . and try it on your work.

FEDERAL PRODUCTS CORPORATION
1178 Eddy Street • Providence 1, R. I.

Ask FEDERAL *First*

FOR RECOMMENDATIONS IN MODERN GAGES . . .

Dial Indicating, Air, Electric, or Electronic—for Inspecting, Measuring, Sorting, or Automation Gaging

For more details circle NED-306 H1 on enclosed inquiry slip

REULAND

motor-and-magnetic -brake package

. . . complete from one dependable source!

Reuland manufactures its own magnetic brakes, as well as electric motors, and offers the most versatile selection of tailored-to-your-equipment brakemotor packages available anywhere. Reuland's many hundreds of combinations of H.P., speed, special drive motors and brake sizes, provide an almost unlimited coverage of O.E.M. and user requirements!

So, whatever your brakemotor needs may be, standard or special, let Reuland supply the complete answer in one, compact, smartly-designed power package. One source of supply for brake and motor saves time for your Engineering and Purchasing Departments...one nameplate establishes dependable, nationwide service responsibility!

Brakes available in all 3 mountings

. . . fulfills J.I.C. specifications!

Our new 8-page catalog, No. GS8-30-0, will come in handy. Sent complete with prices and engineering drawings on request. Refer to Sweet's Product Design, Section 7a/RE

MODERN POWER FOR MODERN-DAY PRODUCTS

. . . all in lightweight, cool-running aluminum frames!

REULAND MOTORS

REULAND ELECTRIC COMPANY

WESTERN DIVISION: *Alhambra, Calif.* EASTERN DIVISION: *Howell, Mich.*

Distributors in all principal cities

For more details circle NED-307 H1 on enclosed inquiry slip

New Federal Combin-O-Tool Method SAVES UP TO 46% ON SHORT RUN STAMPINGS

Some typical parts produced by Federal Combin-O-Tool Method.

Combined operations mean lower cost short run stampings whenever they can be produced by the Federal Combin-O-Tool Method. Where it formerly took 4 or 5 operations—it can now be done by Federal with only 2 or 3 operations. The labor savings are passed on to you in lower cost stampings.

Send your prints or parts today to see if they can be done with the new Federal Combin-O-Tool Method. The savings will please you.

FEDERAL

3 PLANTS To Serve You Better

FEDERAL TOOL & MFG. CO
3618 Alabama Avenue • Minneapolis 16, Minn.
Phone WEst 9-7843
FEDERAL SHORT RUN STAMPING, INC.
918 Lyell Avenue • Rochester 6, New York
Phone CLearwater 4-9523
FEDERAL STAMPING COMPANY
7318 Atoll Avenue • North Hollywood, Calif.
TRiangle 7-0452

For more details circle **NED-308 H1** on enclosed inquiry slip

WON'T WARP, WEAR OR CORRODE

NEW *Rubber-Armored, Rubber-Hinged* **CLARK DURADOR**

Self-closing DURADOR takes all the punishment your fork truck jockeys can dish out. Permanently-bonded rubber coating prevents gouging, splintering.

Full-length flexible rubber hinges prevent misaligning — return DURADOR to closed position every time. Combines the best of a rigid door with a rubber curtain. Never needs maintenance. Applies easily at any doorway. Comes in all standard industrial doorway sizes.

Isn't this the door you've been wanting? Write today for details.

CLARK DOOR COMPANY, INC. *(since 1878)* 511 Hunterdon St., Newark 8, N. J.

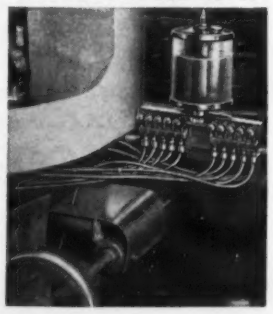
For more details circle **NED-309 H1** on enclosed inquiry slip

Lubricate Up to . . . 20 . . . Bearings With TRICO MULTIPLE FEED OILERS

- Manual Or Solenoid Control
- Pyrex Glass Or Lucite Plastic Reservoirs
- 1 Pt., 1 Qt. and 2½ Qt. Capacities.

Automatically feed a measured quantity of oil by gravity to multiple bearing points. No intricate mechanical parts to clog or stick. Simple needle-valve adjustments eliminate dangers of guesswork. Transparent bottle shows instantly when refilling is necessary. Easily installed. Low in cost.

SEND FOR FREE BUL. NO. 33



TRICO Multiple Oiler On Surface Grinder At Martindale Elec. Co., Cleveland, Ohio

Ten Bearings are lubricated from one central point safely and economically. Great savings of costly labor and lubricants are reported over former method of daily "trust-to-luck" hand oiling.

Photo—Courtesy Martindale Electric Co.

TRICO FUSE MFG. CO. MILWAUKEE 12, WIS.

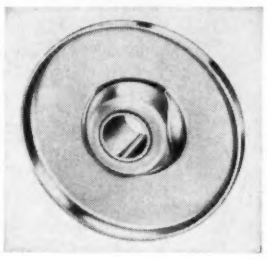
For more details circle **NED-310 H1** on enclosed inquiry slip

INSPECTION STROBOSCOPE has high intensity daylight lamp

This Model 161 triggered flash stroboscope is designed primarily for visual inspection of high speed repetitive operations as are found in printing, packaging, textile, and similar industries. The high intensity flash bulb is triggered by external contacts or a cam-actuated switch on the machine being checked. Light is sufficient for photographic recording. Unit operates on 117-v 60-cycle ac and has a range of 0 to 2000 flashes per minute with a flash duration of 5 microseconds. Price is $119.50. • **Slaughter Co.**, Young & College Streets, Piqua, Ohio.

For more details circle **NED-311 H1** on enclosed inquiry slip

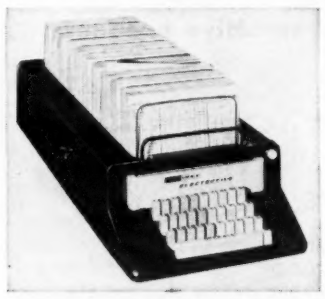
CONVEYOR ROLL BEARING has several types of lubrication



Bearing for belt type conveyors is "criss-cross" mounted in the conveyor roller tube in a one-piece mounting. The ¾-in. self-aligning bearing ball unit slides into the end of a 4-in. diameter tube and is tack or spot welded in place. Depending upon loads and speeds involved, similar permanently lubricated or oil or grease lubricated bearings can be supplied. Shaft sizes range from ¼ to 1½ in. • **Triangle Mfg. Co.**, 714-722 Division St., Oshkosh, Wis.

For more details circle **NED-312 H1** on enclosed inquiry slip

AUTOMATIC CARD FILE coded cards are easily found



Filing errors are eliminated by use of the Electrofile which can handle thousands of record or data cards. Refiling is not required, as cards can be put back anywhere in the file after use. Using the Electrofile keyboard, an operator can produce any single card or group of cards instantly. The same keyboard codes new cards by any desired classification, including name, number, class of information, or specific fact. • **Acme Visible Records, Inc.**, Crozet, Va.

For more details circle **NED-313 H1** on enclosed inquiry slip

MINIATURIZE with VARGLAS

thin wall

Silicone Rubber Sleeving

Space-saving thin wall construction and precision ID dimensions make Varglas Silicone Rubber Sleevings the best answer for miniaturization. Highly flexible with dielectric strength up to 8,000 volts, Varglas resists deterioration, cracking, crazing, and "cut through" in temperature from minus 70° to plus 400° F. Meets government specification MIL-I-18057A.

A complete range of sizes from .010" to 3" ID, in brilliant, non-fading colors for instant coding identification. Comes in coils, spools or 36" lengths for off-the-shelf delivery. Of course, Varflex engineers are always ready to work with you at any time to develop the special sleevings and tubings you need for your applications. No obligation or charge for this cooperation.

• *Write for free folder containing test samples*

Varflex *"Never satisfied until you are"*

VARFLEX SALES CO., INC. • 310 N. Jay St., Rome, N. Y.

For more details circle **NED-314 H1** on enclosed inquiry slip

A new low-cost automated polyethylene packaging system

FUNCTION: Completely packages products in polyethylene film —in one operation—in your plant. Produces inexpensive loose or shrink-fit polyethylene packages around regular, odd-shaped or out-sized products of all types. **ADVANTAGES:** Uses polyethylene roll stock. Saves up to 50% on material costs over ready-made bags and other packaging methods and materials. • Boosts in-plant packaging efficiency, produces up to 30 packages per minute at reduced labor costs. • Provides a self-selling plain or printed package that protects, displays, reduces damages caused by excessive handling. • Simple to Operate—Easy to Maintain. **COST:** Complete MA Systems normally range from $2000 to $4000. **FREE OFFER:** Let the MA System test-package your product in durable, transparent polyethylene. Send us a sample, or write for complete details on this revolutionary packaging system to either: Mehl Manufacturing Company, 2057 Reading Road, Cincinnati 2, Ohio—or—Kordite Company, Macedon, New York.

ma SYSTEM

For more details circle **NED-315 H1** on enclosed inquiry slip

Wide choice...and fast service!

Spraco has the most complete line of nozzles available anywhere — **and all from stock.** Full cone — hollow cone — flat spray. Bronze, cast iron, or stainless. Capacities from ⅛ pint/min. to 4,000 gal./min.

Spray's new nozzle catalog is more than a catalog — it's a reference book. Write today for your free copy.

SPRAY ENGINEERING 106 Cambridge Street, Burlington, Mass.

SPRACO NOZZLES

For more details circle **NED-316 H1** on enclosed inquiry slip

SILICONES LUBRICATE from -100 to 450F

Dow Corning silicone lubricants won't bleed out, run-off or carbonize in heat . . . won't stiffen in cold. Silicones are the answer to many "special" lubricating problems. Write today for FREE SAMPLE and literature. Dept. A820.

FREE SAMPLE

first in silicones

Dow Corning CORPORATION MIDLAND MICHIGAN

For more details circle **NED-317 H1** on enclosed inquiry slip

NOW YOU CAN PAINT OVER RUST

Brush or spray OSPHO on rusted metal.

Apply OSPHO® on rusted metal after simply wire-brushing loose rust. OSPHO chemically changes rust into iron phosphate and stops further rust action. Resulting inert surface is an excellent base for maintenance paint. Paint jobs last longer, as proved by repeat orders over past 12 years.

Non-toxic, non-flammable. A gallon treats up to 600 sq. ft. Treats new metal too — prepares galvanized and aluminum surfaces for paint.

1-gal. bottles (cases of 4) @ $3.50 per gal.
5-gal. pails @ $3.40 per gal. • 50-gal. bbls. @ $3.00 per gal.
F.O.B. CLEVELAND

NO-RISK OFFER. Order 5 gallons. Try OSPHO. If it does not do what we claim, *we'll cancel the invoice.*

RUSTICIDE PRODUCTS COMPANY
3131 Perkins Ave., Cleveland 14, Ohio
Quality Maintenance Products Since 1917

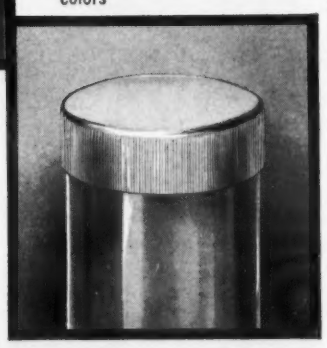
▲ For more details circle **NED-318 H1** on enclosed inquiry slip ▲

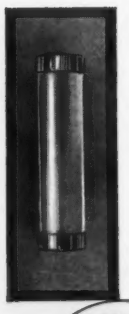
LERMER Adds Important NEW Features to *flexible acetate containers*

• Clear, flexible extruded containers • Full width straight opening • No turned-in top • Easy to fill and empty • Streamlined • Seamless • Can be printed up to 4 colors

• Reinforced molded bottoms • Firm wide base—Prevents tipping over • Available in colors

• Molded polypropylene closures for uniform fit • Knurled for easy grip • Engineered to hold tight—Easy to remove and replace • Closures available in assorted colors • May be hot stamped in contrasting color with trade mark or other desired copy





• Containers available in diameters from ¼" through 1¼" • Any lengths up to 7" — Longer lengths on special order • Can be furnished in long lengths open at both ends. You can make your own containers by cutting to your sizes. We furnish closures.

Now is the time to consider the flexibility, the protection, the beauty, the features and economy of Lermer flexible plastic containers. Ideal for many products. **Write today for samples.**

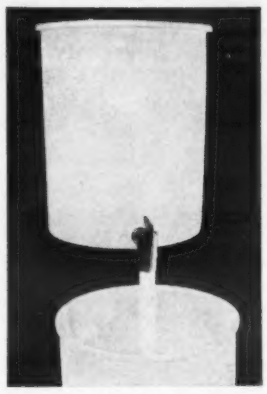
ALSO A COMPLETE LINE OF RIGID MOLDED CONTAINERS.

LERMER PLASTICS, INC.
514 South Avenue, Garwood, N. J.

PIONEERS AND SPECIALISTS IN PLASTIC CONTAINERS SINCE 1919

▲ For more details circle **NED-319 H1** on enclosed inquiry slip ▲

POLYETHYLENE TANKS can be fitted with spigots



Almost any type of liquid except hydrocarbons, and many types of free-flowing granular materials are held and dispensed in this line of polyethylene tanks when equipped with ½ or 2-in. spigots. Either rigid or conventional polyethylene tanks are available. Larger spigot is for viscous and granular materials. Breather covers for venting of certain solutions fit snugly over the molded ring tops. • **Redmanson Corp.**, 630 Loucks Mill Rd., York, Pa.

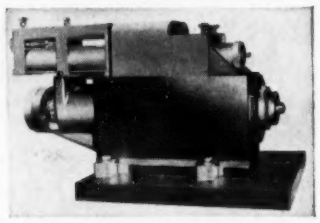
▲ For more details circle **NED-320 H1** on enclosed inquiry slip ▲

DRILL SPEEDERS increase maximum spindle speeds

Small hole drilling speeds up to 22,500 rpm are possible on machines with maximum spindle speeds of only 1500 rpm when these gearless drill speeders are used. Ball bearing equipped units are quiet and vibrationless in operation and have threaded or tapered mounts for application on all types of manual, semi, or completely automated drilling machines. Model 62 has a No. 80 to 1/16-in. capacity, standard ratio of 7:1, and optional ratio of 2.75:1. Weight is 9 oz and diameter 1 5/16 in. Model 125 has a No. 80 to ⅛-in capacity and standard ratio of 6.25:1. Optional ratios are 2.50:1 and 15:50:1. • **Tapmatic Corp.**, 845 W. 16th St., Costa Mesa, Calif.

▲ For more details circle **NED-321 H1** on enclosed inquiry slip ▲

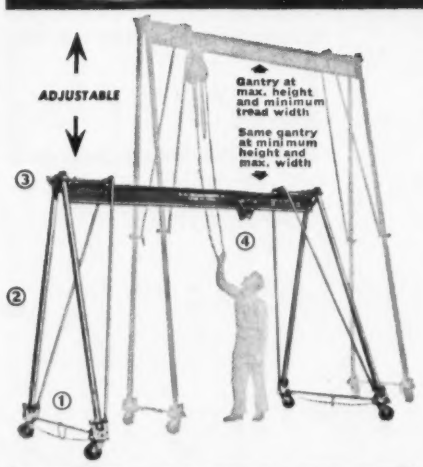
MINIATURE BORING DEVICE precision head has 2-in. travel



Suited for the instrument and small parts industry, this miniature precision boring spindle assembly operates at speeds from 1000 to 15,000 rpm. The reciprocating spindle has up to 2-in. axial travel with rotational error of less than 0.00003 in. and travel error of less than 0.00005 in. Micrometer depth control assures repeat within 0.0002 in. Several units can be used as modules or building blocks in an automated or production setup. • **Whitnon Mfg. Co.**, Route 6 & New Britain Avenue, Farmington, Conn.

▲ For more details circle **NED-322 H1** on enclosed inquiry slip ▲

MAGIC-POLE UNIVERSAL GANTRY

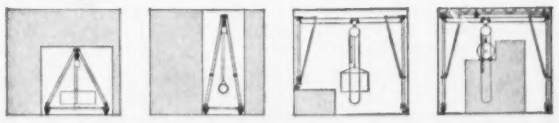


① ADJUSTABLE CASTER SPREAD
② TELESCOPING LEGS
③ SELF-LEVELING I-BEAM UP TO 30 FT. LONG
④ TROLLEY TRAVELS FULL LENGTH

STEEL OR ALUM. ALLOY I-BEAMS

HEIGHTS TO 17 FEET

CAPACITIES TO 4 TONS



Sets low for moving under piping, fire doors & into elevators, etc.

Caster spread adjusts to under 4 ft. for rolling in tight spaces.

Legs adjust up to 6 feet to rest on platforms, truck beds or in pits.

Height adjusts to take maximum advantage of limited head room.

Write for FREE literature

B. E. Wallace Products Corp. EXTON 19 PA., U.S.A.

▲ For more details circle **NED-323 H1** on enclosed inquiry slip ▲

MORE QUALITY ENGINEERED FEATURES IN STEPHENS-ADAMSON CARRIERS

Series # 200 Carriers

Series #700 Carrier

35° and 45° Deep Trough Carriers

Pneumatic "Impact" Carriers

ADVANTAGES

- Spun-end roller assemblies and parts interchangeable for quick installation.
- One-Piece, all-steel, welded frame construction.
- Positive lubrication . . . pre-lubricated at factory . . . provisions for field lubrication.
- Roller brackets tilt two degrees in direction of travel for greater belt training effect.
- Die-cast labyrinth bearing seals keep grease in . . . dust and dirt out.

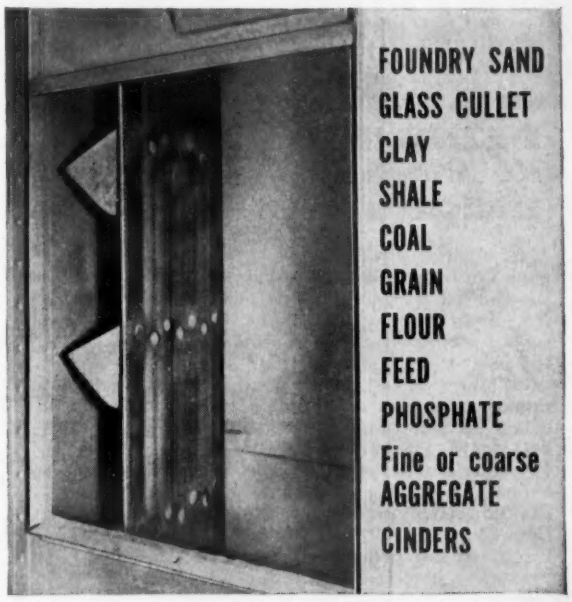
S-A

WRITE FOR BULLETIN 760

STANDARD PRODUCTS DIVISION
STEPHENS-ADAMSON MFG. CO.
12 RIDGEWAY AVENUE • AURORA, ILLINOIS
PLANTS LOCATED IN: LOS ANGELES, CALIFORNIA
CLARKSDALE, MISSISSIPPI • BELLEVILLE, ONTARIO

▲ For more details circle **NED-324 H1** on enclosed inquiry slip ▲

WHATEVER YOU HAVE TO CONVEY—



YOU GET BETTER BUCKET HOLDING WITH Scandura PVC

BUCKET ELEVATOR BELTING

Highest tensile strength, solid-woven one-piece construction and exclusive PVC compound impregnation give SCANDURA Belting the top rating for performance in bucket elevator service. *Buckets stay put* with this flexible, moisture-proof, oil resistant belting—no matter what material you convey. Get the SCANDURA facts in new 8-page illustrated brochure. write!

Scandura INC.
North Tryon St. at Keswick Ave.
(P. O. Box 949)
Charlotte 1, North Carolina

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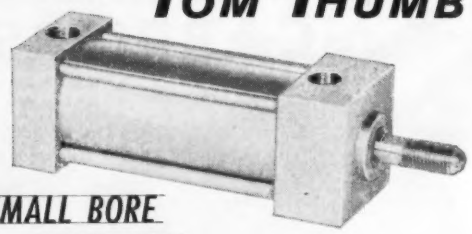
TOM THUMB



SMALL BORE CYLINDERS

AIR to 200 psi . . . . HYDRAULIC to 2000 psi.

- ¾"... 1"... 1⅛" BORES
- 8 MOUNTING STYLES
- IMMEDIATE DELIVERY

FROM STOCK

TOM THUMB cylinders are precision-built for lasting dependability. Quality features include non-corrosive barrel; stainless steel piston rod; steel head and cap; piloted construction throughout. All bore-sizes available in single or double acting, single or double rod end, or tandem type.

NEW DESIGNERS' TOM THUMB BROCHURE
Mail card or letter today. You'll like this easy-to-use TOM THUMB helper.

SPECS. DWGS. DIMS. DATA

PNEUMATIC-HYDRAULIC DEVELOPMENT CO.
TOM THUMB DIV.... FORT WAYNE, INDIANA

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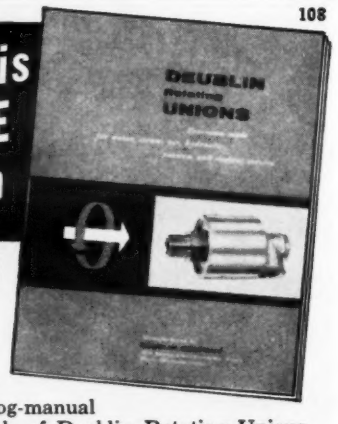
Send For This NEW FREE Catalog On



DEUBLIN Rotating UNIONS

A completely new, 20 page illustrated catalog-manual showing all the models of Deublin Rotating Unions for water, steam, air, hydraulic, vacuum and coolant service for the machines you make or use, is just off the press to help you get trouble-free service and reduce your "down-time" and keep maintenance to a minimum. Shown are rotating joints for water and steam service; monoflow and duoflow unions; single and double passage rotating air unions; hi-pressure lo-torque unions; extra capacity air unions; rotating siphon pipe unions; in-the-shaft mounted unions; hydraulic rotating unions and hi-speed coolant unions. Complete with full engineering data, cut-away drawings, plus instructions for installing, lubricating and servicing Deublin unions.

Write for your free copy today.

DEUBLIN COMPANY
1925 STANLEY ST. • NORTHBROOK, ILL.

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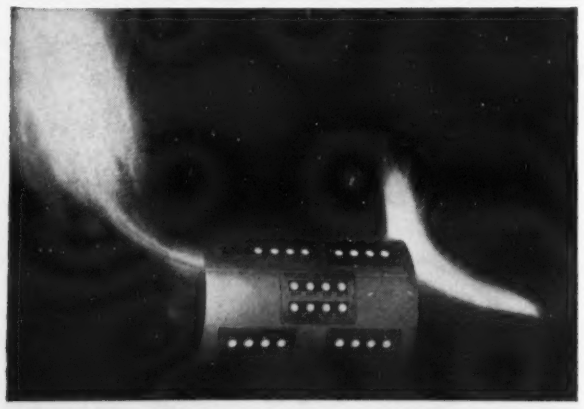

TEMP-PLATE® TEMPERATURE INDICATING STICKER

Temp-Plates detect overheating of electronic components, vital airborne parts, industrial equipment, in a positive, direct manner. Simple, easy to use, irreversible, Temp-Plate is the thin little tab that sticks to the component, turns black when the temperature reaches any desired value between 100° and 1100°F. Impervious to ambient atmosphere and production line handling, Temp-Plate is accurate to ±1%, provides for absolute indication of heat damage. Write now for literature.

Actual Size

TEMP-PLATE/Pyrodyne, Inc.
11973 San Vicente Blvd.
Los Angeles 49, California

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FLOOR SCRUBBER-POLISHER
cleans 30,000 sq ft per hour

In one pass, this Convertamatic-450 automatic scrubber-polisher lays the cleaning solution, scrubs a 45-in. swath, vacuums up the dirty solution, and dries the floor. It will also polish a 45-in. swath while vacuuming up dust and dirt. Machine is propelled by a 7-hp gasoline or propane engine at speeds up to 185 fpm. Floor coverage is from 30,000 to 35,000 sq ft per hour. Also available are 24-in. gasoline, propane, battery, or electric powered units, as well as a 21-in. battery-powered model. • **Advance Floor Machine Co.**, Spring Park, Minn.

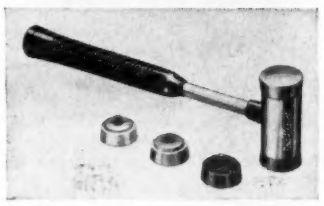
▲ For more details circle NED-329 H1 on enclosed inquiry slip ▲

PROTECTIVE SUIT
withstands liquid oxygen, nitrogen

Maximum body protection from such hazards as liquid oxygen and nitrogen is afforded by this protection suit. It is made of treated nylon cloth and is available in translucent white or green shades. The full-length protected brass zipper resists corrosion and makes it easy to don or remove the suit. Gloves are dehydrated cowhide and fully lined. The hood will fit over a safety hard hat, and the window is two 8 x 4¼-in. plastic panels. Air space between the panels minimizes fogging. Boots have 18-in. zippers on the back. Small, medium, and large sizes are offered. Price is $150. • **American Optical Co.**, 1492 Mechanic St., Southbridge, Mass.

▲ For more details circle NED-330 H1 on enclosed inquiry slip ▲

SOFT-FACED HAMMERS
hold interchangeable nylon tips



Marring of finished surfaces is prevented by the soft faces of this line of hammers. They are made in 1¼, 1⅜, and 1¾-in. head diameters with interchangeable nylon tips in three varying degrees of hardness. Color-coded tips will not gash, mushroom, or chip, and are resistant to oil, gasoline, and common industrial acids. • **Armstrong Bros. Tool Co.**, 5200 W. Armstrong Ave., Chicago 46, Ill.

▲ For more details circle NED-331 H1 on enclosed inquiry slip ▲

HOW TO SAVE MONEY BY RIVETING

I **Design** for rivets. Use their adaptability not only for assembly, but for electrical contacts, pivots, inserts in molded materials, fastening a number of parts in one operation, joining metallic and nonmetallic parts together, or to each other.

II Plan on **high speed assembly**. Riveting is a high speed operation, and even manually operated machines include automatic hoppers. The uniform quality and strength of Milford semi-tubular, tubular, split or compression rivets permits the use of high speed production equipment by unskilled operators.

III Count on a **positive** joint. A riveted joint can be visually inspected, an advantage not to be overlooked when compared to many other methods of fastening.

IV **Use** Milford's "five plant" facilities. Each Milford plant is strategically located to serve the important industrial areas of the U.S. **Order** and **get** Milford Products **when** and **where** you need them.

V Have **uninterrupted production** with Milford rivet-setting machines. Used singly, or in economical "multiples", where you set more than one rivet with no increase in labor or handling costs, Milford riveters, setting Milford rivets, are the surest way to lowest in-place assembly cost.

THE MILFORD RIVET & MACHINE CO.

MILFORD, CONN. • HATBORO, PENN. • ELYRIA, OHIO • AURORA, ILL. • NORWALK, CALIF.

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SHOPMOBILE

PAYS FOR ITSELF IN 90 DAYS!

SAVES MANY HOURS OF MAINTENANCE TIME — SAVES TRIPS — SPEEDS WORK

TAKE THE WORKSHOP TO THE WORK

SHOPMOBILE is an all-steel welded workshop on wheels with roomy storage compartments that can be locked and workbench surfaces at working height.

Only $249.00
F.O.B. Factory, Cardington, Ohio
Ready to Operate
Finish Painted

Free-rolling solid rubber tires

MECHANIZE YOUR MAINTENANCE DEPARTMENTS! WRITE TODAY FOR FULL INFORMATION.

STAHL METAL PRODUCTS, INC.
4750 W. 160th St. • Cleveland 35, Ohio
TELEPHONE: WInton 1-2377

▲ For more details circle NED-333 H1 on enclosed inquiry slip ▲

- color code enamels
- marking enamels
- ASA machinery gray enamels
- wrinkle finishes
- high-heat aluminum
- zinc chromate primer
- gray primer-surfacer

CHECK LIST

- open gear and wire rope lubricant
- light oil lubricant
- penetrating oil
- dry graphite lubricant
- all-purpose silicone lubricant
- clear plastic
- silicone mold release
- red insulating varnish-enamel
- battery terminal protector
- blue layout fluid
- layout fluid remover
- anti-rust spray
- electric motor degreaser
- engine degreaser
- Jet-Pak self-powered spray gun

Which of these self-spraying products can you use?

CHECK THE LIST—THEN PHONE YOUR DISTRIBUTOR!

Single brand — single source

ONE CALL—THAT'S ALL!

The first **complete** line of industrial aerosols—your key to "push-button maintenance." Stocked and sold only by industrial distributors to give you quick service! Phone your distributor today for free handbook of 47 different maintenance and production aids in self-spraying containers—the better, faster, safer, cleaner, easier way to do a hundred jobs! Made by the oldest and leading custom-loader of aerosol specialties. If your distributor cannot supply you, write **Industrial Supply Division, Sprayon Products, Inc., 2063 East 65th Street, Cleveland 3, Ohio.**

Sprayon AEROSOLS FOR INDUSTRY

▲ For more details circle NED-334 H1 on enclosed inquiry slip ▲

A happy ending to those excessive wire-rope costs

Electroline

WIRE ROPE FITTINGS

Tremendous holding strength and a simple design that reduces rope wear at the commonest point of failure, make Electroline Fittings the first choice of veteran wire rope users.

Easy Application—an Electroline fitting goes on in a jiffy; no molten metal, just ordinary tools.

Lasting Grip—they hang on "for keeps".

Rope Lasts Longer—vibration damped, rope fatigue reduced.

Fittings Reusable—when wire rope is "worn out"—use the fittings again and again, indefinitely.

That's the simple story of how to gain substantial savings. Next step—write for the Electroline catalog with full information.

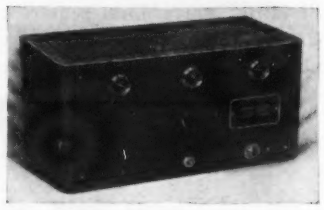
Electroline PRODUCTS

THE SUPERIOR SWITCHBOARD & DEVICES COMPANY

Box 590, Canton 1, Ohio • In Canada: Box 158, Brampton, Ont.

For more details circle NED-335 H1 on enclosed inquiry slip

GROUND DETECTOR & ALARM
has warning flash, audible signal



Three phase-indicator lamps of the Brunt ground detector and alarm glow with equal intensity when the instrument is wired to a power system. When a ground occurs, one of the lamps dims or goes out, indicating on which phase the accidental ground has occurred. At the same time a red warning lamp flashes and a bell or horn sounds. These continue until a reset button is pushed and the red light glows until the ground is cleared. Unit is housed in a 16 x 8 x 8-in. steel cabinet. • **Parr Mfg. Corp.**, 40 Austin St., Newark, N. J.

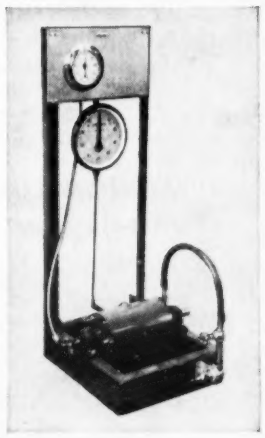
For more details circle NED-338 H1 on enclosed inquiry slip

INSPECTION UNIT
is a surface plate with accessories

Six standard devices are incorporated in this integrated V-Liner inspection unit. It includes a 12 x 60-in. or a 24 x 60-in. surface plate, concentricity checker and adjustable bench center, V-block attachments, and Sine plate. Attachments mount on an angular clamping edge along one side of the surface plate and are held in place with knurled screws. A wide variety of precision checking, inspection, and measuring operations can be performed on this unit. • **Swanson-Erie Corp.**, 814 E. Eighth St., Erie, Pa.

For more details circle NED-339 H1 on enclosed inquiry slip

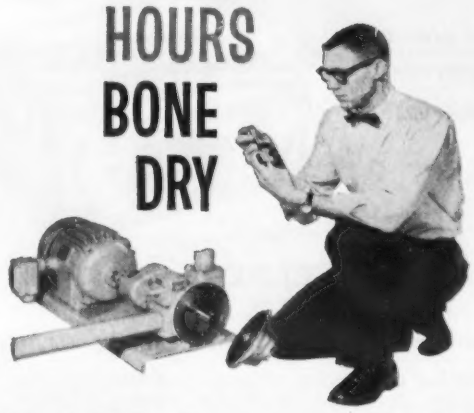
WATER BRAKE DYNAMOMETER
for horsepower, torque measuring



Torque measurements in the range of 1 to 60 hp are readily made with this Model 60 water brake dynamometer. Load adjustment is made quickly with a baffle lever. Ball bearings contribute to safety and accuracy, and only 4 gal of water is needed when operating in either direction. Machine is equipped with a 1000 to 100,000-rpm tachometer and an easily-read 6½-in. dial. The 0 to 50-lb scale is graduated in ¼-lb increments. • **Ferret Engineering Co.**, 2730 Hylane Dr., Birmingham, Mich.

For more details circle NED-340 H1 on enclosed inquiry slip

2000 HOURS BONE DRY



When asked how well our pumps would wear, we had this to tell. In one of the toughest pumping tests ever devised, a 2-inch Blackmer vane-type pump was driven at top speed for 2000 hours, running absolutely bone dry. Vane wear was detectable only with a micrometer! Even when vanes do show wear, they are inexpensively replaced. Aren't these good reasons why you should specify Blackmer pumps? Write for Bulletin One.

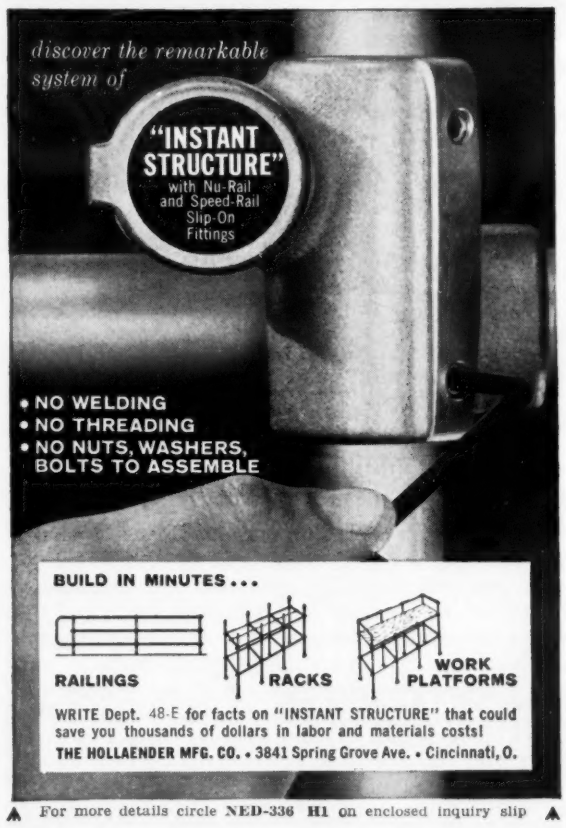
"liquid materials handling" equipment

BLACKMER / rotary pumps

BLACKMER PUMP COMPANY, GRAND RAPIDS 9, MICHIGAN

Find your Blackmer Man under "Pumps" in the Yellow Pages

For more details circle NED-341 H1 on enclosed inquiry slip

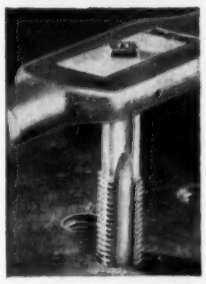


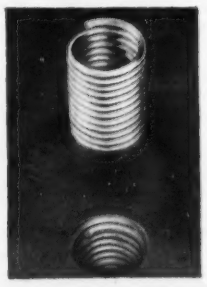
WRITE Dept. 48-E for facts on "INSTANT STRUCTURE" that could save you thousands of dollars in labor and materials costs!

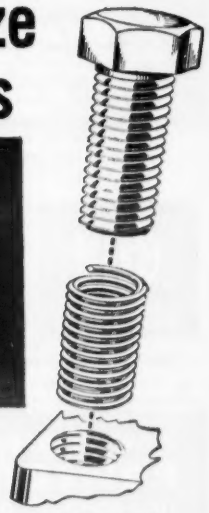
THE HOLLAENDER MFG. CO. • 3841 Spring Grove Ave. • Cincinnati, O.

For more details circle NED-336 H1 on enclosed inquiry slip

Permanent thread repairs "on-the-job" without welding, plugging or oversize screws







Eliminate costly down-time and production delays . . . restore damaged threads to *original* size permanently and quickly with ***HELI-COIL*** Stainless Steel Wire Screw Thread Inserts. No need to weld, plug, use oversize screws, or replace damaged parts—just drill, tap and install a ***HELI-COIL*** Insert. Made of precision-formed coils of diamond shaped, 18-8 stainless steel wire . . . they resist wear, corrosion, galling, stripping and seizing—give stronger, life-time threads.

Screw Thread Shop-packs contain tap, inserting tool and inserts in sizes required. Available in UNC 6-32 to 1½-6; UNF 6-40 to 1-14.

Screw-Lock Shop-packs include the same tools, with inserts in sizes required. UNC 6-32 to 1-8 and UNF 6-40 to 1-14. Screw-Lock Inserts provide all the advantages of Screw Thread Inserts, PLUS an exclusive internal locking feature that eliminates lock nuts, lock washers and lock wiring. Ask for Bulletins 724D and 766A.

2069

HELI-COIL CORPORATION

3408 Shelter Rock Lane, Danbury, Conn.

In Canada: ARMSTRONG BEVERLEY ENGINEERING LTD. 6975 Jeanne Mance St., Montreal 15, Que.

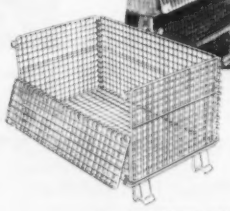
For more details circle NED-342 H1 on enclosed inquiry slip

PALLETAINERS® AT WORK... CUTTING PRODUCTION COSTS!

Palletainers speed machine and production line operations.

Write Today... for complete information on the complete Palletainer line.

Palletainers stack to the rafters...safely. Products stay clean, safe—always visible.



• Palletainers handle *anything* better! They increase your production efficiencies, improve your plant's appearance and quickly pay for themselves in manhours and space saved. Palletainers are practically indestuctible . . . built to endure rough, fast handling for years to come. They are available in a wide range of sizes, types, styles and loading capacities from 250, 500, 1250, 2000, 4000 to 6000 pounds per unit.

Why not see for yourself how USP Palletainers . . . or the new small size 'Juniors'—could save time, money and effort in *your* plant.

• **You may try regular Palletainers . . . or the new small size 'Juniors' in your own plant on a 60-day memo billing basis. Your obligation is freight only!**

UNION STEEL PRODUCTS CO.

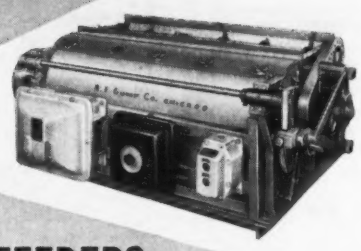
505 N. Berrien Street

ALBION, MICHIGAN

For more details circle NED-337 H1 on enclosed inquiry slip

Regulate Bulk Feeding . . .

and prevent production choke-ups!



DRAVER FEEDERS

now available with automatic timing controls

Prevent overloading of production machines. Accurate, trade-proved Draver Feeders regulate the flow of dry free- or nonfree-flowing products . . . keep processing equipment operating at most efficient capacity . . . prevent machine failure and downtime. Now available with timing controls, for feeding to continuous processes at automatic intervals. Capacities from minute quantities up to thousands of pounds per hour. What is your bulk feeding problem? Write our engineering department for a solution, without obligation.

B. F. GUMP CO.
Engineers and Manufacturers since 1872
1336 South Cicero Avenue, Chicago 50, Illinois

SALES AND SERVICE — New York 36—Jabez Burns and Sons, Inc.—600 W. 43rd St. San Francisco 5—Tempo-Vane Mfg. Co.—330 First St. Dallas 2—J. B. Williams—1026 Young St.

For more details circle NED-343 H1 on enclosed inquiry slip

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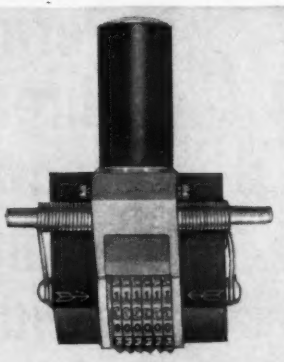


Serial Numbers Marked Permanently and Automatically

You get clean, sharp serial numbering with SCHMIDT numbering heads. From hand style to fully automatic for production marking, SCHMIDT produces a wide range of styles and sizes. Standard or special models for consecutive or repeat marking are designed to meet your particular requirements. Numbering heads are just one of our many marking specialties. Write for complete information.

GTS SCHMIDT

IF IT'S WORTH MAKING, IT'S WORTH MARKING
GEO. T. SCHMIDT, INC.
Since 1895
Engraved Marking Tools • Nameplate Marking Equipment • Embossing Dies • Special and General Purpose Marking Machines

1800 W. Belle Plaine Ave., Chicago 13, Illinois • Phone EA 7-0300

For more details circle NED-344 H1 on enclosed inquiry slip

New Gleason POWERTRAK Increases Cable, Hose Life on your Equipment-in-Motion!

Write for suggestions on profitable POWERTRAK applications to your Equipment-in-motion

Your equipment will benefit with POWERTRAK—amazing patented invention for carrying power cable or hose to and with equipment in motion. Offers many advantages on machine tools, lathes, grinders, planers, presses, cranes and others. Protects power cables, oil, gas, and air hoses against wear from bending, crushing, abrasion, friction, pulling stresses and strains. Avoids machine downtime and cable or hose replacement expense.

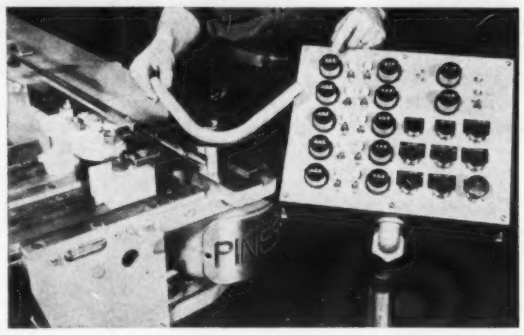
POWERTRAK saves space, permits more flexibility in machine design. Handles multiple cable and hose up to 2" diameter, up to 80 feet of travel, at moving speeds up to 300 feet per minute.

Gleason Reel Corp
Exclusive Licensees for United States, Canada, Mexico
Dept. A, 800 Horicon St., Mayville, Wis.
TAKE-UP REEL HEADQUARTERS FOR ALL INDUSTRY

For more details circle NED-345 H1 on enclosed inquiry slip

ROTARY BENDING MACHINE
dial selects up to 15 bend angles

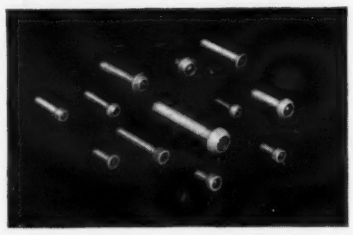
Bending operations requiring frequent setups and changeovers are handled semiautomatically on the Dial-A-Bend electronic bend selector for Pines rotary



bending machines and presses. An untrained operator can program bend angles from blueprints or records of previous setups. Correction factors including spring-back are accommodated by setting compensation dials. Then each bend angle is "dialed" in the normal progressive sequence. Up to 10 angles can be programmed on bending machines and up to 15 on bending presses. • **Pines Engineering Co.**, 601 Walnut St., Aurora, Ill.

For more details circle NED-346 H1 on enclosed inquiry slip

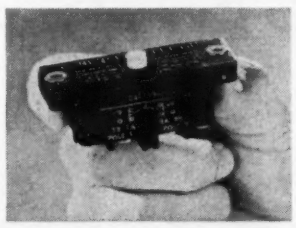
PLASTIC-METAL SCREWS
available in small lots



Natural colored nylon outer threaded screw with a cadmium plated and hardened steel core which is completely insulated comprise these plastic-metal screws. They are available in small lots, packaged in units of 10 and 100 for easy handling and storing. Usable in high stress applications, they have two and one-half times greater torque and shear strength than nylon screws. Self-sealing, corrosion resistant screws are made in round, fillister, flat, and washer slotted head types with 6-32 to $\frac{1}{4}$-20 threads, and lengths up to $1\frac{1}{2}$ in. Packaged assortment containing 60 screws costs $5. • **Machine Parts Supply Co.**, 13 E. 37th St., New York 16, N. Y.

For more details circle NED-347 H1 on enclosed inquiry slip

SNAP-ACTION LIMIT SWITCHES
two-pole type for motor control



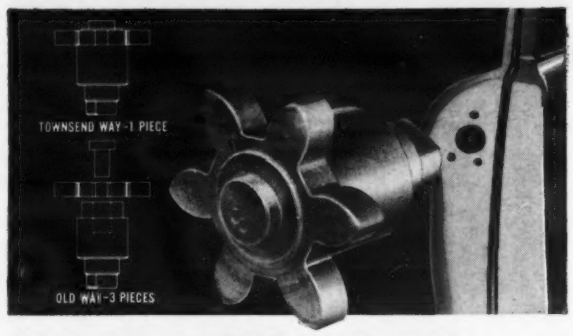
Designed for highly repetitive operations on limited-space industrial applications, precision snap-action limit switches are offered with two normally-open, two normally-closed, or two normally-open and two normally-closed contacts. Basic button, plunger, and roller lever operated types are available in these compact sealed controls. • **General Electric Co.**, 1 River Rd., Schenectady 5, N. Y.

For more details circle NED-348 H1 on enclosed inquiry slip

FLOOR VACUUM-SWEEPER
cleans 40-in. path at 5 mph

A few turns of a crank-lever mechanically cleans the 5100-sq in. dust filter of improved Model 53 vacuumized floor sweeper. Increased in area 64 per cent, it filters the fan-driven, dust-laden airstream through a series of filter envelopes. Accumulated dust drops into an enclosed 250-lb capacity pullout tray when the filter is cleaned. Designed for narrow aisles, sweeper travels at up to 5 mph, reverses instantly, and has a 64-in. turning radius. It has a 28-in. main brush and 19-in. rotating side brush for flush-with-wall sweeping. Cleaned path is 40 in. Sweeper is powered by a 7-hp gas or LP gas engine. • **G. H. Tennant Co.**, 721 N. Lilac Dr., Minneapolis 22, Minn.

For more details circle NED-349 H1 on enclosed inquiry slip



Auto maker saved $22 per thousand with Townsend Ultra-Special Part

This Ultra-Special part is made by the Townsend Ultra-Special cold-forming process for $22 less per thousand pieces than the former three-piece assembly made by another method.

One of these automobile door latch rotors is used in each car door by a major manufacturer. Their annual savings—by using this part—is quite substantial.

Cold forming adds strength to make a tougher part while holding dimensional tolerances. In developing these Ultra-Special parts, Townsend's engineers combine such processes as cold-heading and impact extrusion—or, interim heat treatments and coatings. The result is far beyond ordinary limitations.

You benefit directly by using Townsend Ultra-Special parts in the assembly of your products. Your increase in profit potential is a direct combat to competition. **Write Townsend Company, P.O. Box 71G, Ellwood City, Pennsylvania.**

In Canada: Parmenter-Bulloch Manufacturing Co., Limited, Gananoque, Ontario

For more details circle NED-350 H1 on enclosed inquiry slip

Surgepruf has *everything* – a complete line of the finest hydraulic hose, regular and swaged-on assemblies, reusable couplings, adapters and connectors! Whatever the pressure or application you'll find the hydraulic components you need are always readily available locally. For complete details on hose, couplings or fittings and adapters send for free catalog today!

Symbol of SW Excellence — ALEMITE DIVISION STEWART-WARNER CORPORATION

Dept. AK-81, 1850 Diversey Pkwy., Chicago 14, Illinois

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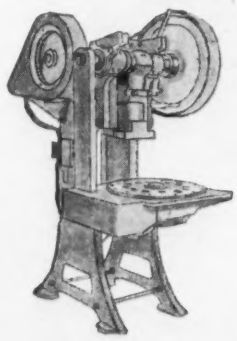
Job-tested for supreme accuracy at higher speeds!

DIAL FEED
FEDERAL • • • • • • • • • • PRESSES



- Anti-friction bearings
- Meehanite castings
- Shear pin protection
- Precision without lock pins
- Accuracy guaranteed
- Checks alignment each index for die protection
- Low acceleration and deceleration
- Gear or chain drive
- Hardened and ground indexing cam
- Automatic lubrication

FEDERAL dial feed **PRESSES**

THE FEDERAL PRESS COMPANY of Elkhart
Dept 906 Elkhart, Indiana

For more details circle NED-352 H1 on enclosed inquiry slip

The S-22 MICROFINISH COMPARATOR

GAGE SURFACE FINISH TO NEW A.S.A. STANDARDS - *Quickly - Accurately*

This convenient pocket comparator has 22 precision surfaces for specifying and controlling finish to the new A.S.A. Standard B46.1-1955. Electroformed in durable corrosion-resistant nickel, the S-22 Comparator provides every department with the most inexpensive method for uniform, accurate control of finish characteristics.

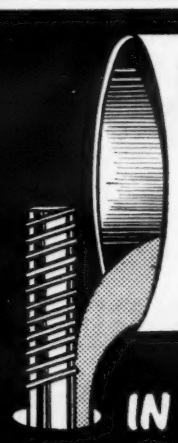
Save valuable time in engineering, inspection, quality control—eliminate costly overfinishing in purchasing and production. $17.50 complete with leather case.

Available from leading industrial distributors, or write

FAIRFIELD DEVELOPMENT LAB., INC.
(SUCCESSOR TO BAPTIST MACHINE CO.)
40 Ludlow Street, Stamford, Conn.

For more details circle NED-353 H1 on enclosed inquiry slip

POR-ROK (POUR ROCK) ®



ANCHORS BOLTS PERMANENTLY IN CONCRETE

IN 30 MINUTES!

POR-ROK

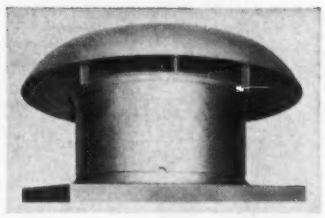
1. Fastens anything into concrete—PERMANENTLY—in minutes
2. Lowest cost
3. Mixed with water and poured into place
4. Applied cold
5. Self-leveling, self-bonding, oil resistant, never shrinks
6. Compression strength 4,500 psi in 1 hour

For complete information—without obligation—write

THE HALLEMITE MFG. CO.
2452 WEST 25th ST. • CLEVELAND 13, OHIO SINCE 1927

For more details circle NED-354 H1 on enclosed inquiry slip

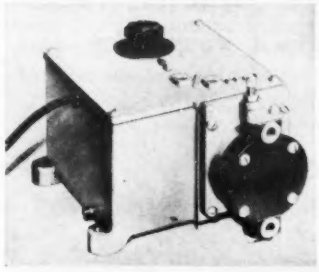
ROOF VENTILATORS of mushroom type are rainproof



Variety of fans is available on each of the 24, 28, 36, and 48-in. mushroom head type roof ventilators, available for industrial building ventilation. The rainproof units have a low silhouette. Accessories offered include wire mesh bird screens and manual or motor operated shutters. • **Hartzell Propeller Fan Co.**, 1025 Roosevelt Ave., Piqua, Ohio.

For more details circle NED-356 H1 on enclosed inquiry slip

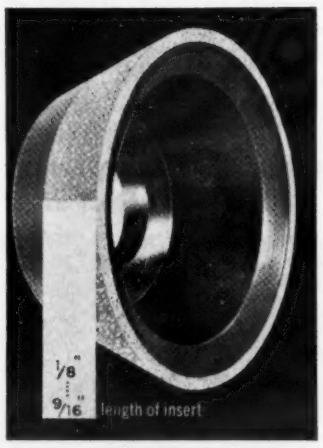
CHEMICAL METERING PUMP adjusts to feed 0 to 158 ml/min



Accurate, precise volume control in the transfer of solutions is provided by this chemical resistant metering pump. A micrometer dial controls volume in range of 0 to 158 ml/min. Setting is readily changed. The pump head is plastic, but stainless steel constructions are available. The diaphragm is Teflon, and the check valves are Hypalon. Other models with capacities of 0 to 100 and 0 to 12.5 ml/min are offered. Prices range from $260 to $330. • **Cole-Parmer Instrument & Equipment Co.**, 7330 N. Clark St., Chicago 26, Ill.

For more details circle NED-357 H1 on enclosed inquiry slip

DIAMOND GRINDING WHEELS flaring cup type in three models

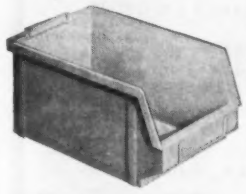


Users of Type D11V9 Exact-O-Wheel diamond grinding wheels can predetermine the cost per grind by using one of three available models best suited to the specific job. The Compact model has a 1/8-in. long insert, the Economy model a 1/4-in. long insert, and the King Size a 3/8-in. insert. Each has an easy-to-dress body of plastic or aluminum that is simple to clear as the diamond impregnated bond wears. All wheels are available in diamond depths of 1/16 and 1/8 in., in 3, 3 3/4, 4, 5, and 6-in. cup sizes. Both natural and man-made diamonds are offered. • **A. I. T. Diamond Tool Co.**, 8221 N. Kimball Ave., Skokie, Ill.

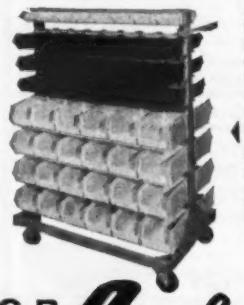
For more details circle NED-358 H1 on enclosed inquiry slip

Lewis UNITIZED ASSEMBLY CONTAINERS

FOR
- ASSEMBLY
- PRODUCTION
- STORAGE



Lewis Plastibox containers are one-piece molded plastic. They are smooth, strong, non-corrosive, easily cleaned. Colors, either green or yellow, are molded-in. Plastibox containers stack securely and afford maximum storage of small parts. Sizes available are 8 1/2" long x 5" wide x 4 1/2" deep, 6" x 3 1/2" x 2 1/2", 3" x 3 1/2" x 1 3/4", and 3" x 3 1/2" x 1 3/4" with a vertical divider.



MOUNTING RAILS— Rails are supplied in 18" and 36" lengths to mount 4 or 8 of the 3 smaller size Plastibox containers; 3 or 6 of the largest size. Rails afford a wide variety of bench or wall arrangements for any assembly or storage operation.

MOBILE TRUCK ASSEMBLY — These Lewis trucks handle all sizes of Plastibox containers and allow the boxes to be quickly and easily moved from one area to another. Trucks furnished with 36" mounting rails, two swivel and two rigid casters, and are finished in grey enamel.

WRITE TODAY for complete information and brochure

G.B. Lewis COMPANY
408 Montgomery St. • Watertown, Wis.

For more details circle NED-359 H1 on enclosed inquiry slip

NOW Controlled Tension From Start To Finish In Winding Roll-Fed Material

Never Before Anything So Efficient • Simple • Versatile

This is your chance to obtain a higher quality of wound material than ever before—and to save substantially on operating and maintenance costs at the same time.

You've never seen anything like the Hobbs "CHP" Winder. It's in a class by itself. No other winding device can match it for simplicity, efficiency and flexibility.

OPERATES ON A.C. Here is a squirrel cage three-phase A.C. motor, flange mounted to a gear reducer. It can be connected *directly* to your rewind shaft. It is entirely independent of the main machine drive. You plug it into your present three-phase power outlet—no transformers or converters to bother with. Then you set a knob to the desired tension and walk away.

AUTOMATICALLY SENSES TORQUE. From the start to the very finish of your rewind operation, the "CHP" accurately maintains the desired tension—protects even the most delicate materials from stretching, breaking or contracting. Automatically the "CHP" senses the increase in torque as the roll diameter builds up and it slows down the speed of the shaft in direct proportion. Controlled tension can be maintained in a roll build-up of as high as 10 to 1.

ECONOMICAL, FLEXIBLE. The efficiency of the "CHP" is many times greater than that of other types of winders. Maintenance is as slight as with any normal A.C. motor—there are no brushes or tubes. The "CHP" is compact, saves you floor space. It is clean, there are no belts to slip and stir up dirt. It is flexible—connect it directly to the rewind shaft, or remotely by chain and sprockets. And it needs no supervision, saves you labor costs.

MULTIPLE APPLICATIONS. The "CHP" Winder has already proved its adaptability and efficiency in multiple applications:—for winding, unwinding and inspection of paper, plastics, rubber and woven and non-woven textiles in a wide range of widths and weights.

Find out for yourself just why the Hobbs "CHP" Winder can make such a big difference—how it can give you increased production through *positive* quality control. Mail coupon below for free information. No obligation.

HOBBS MANUFACTURING CO.
41H Salisbury St., Worcester 5, Mass.

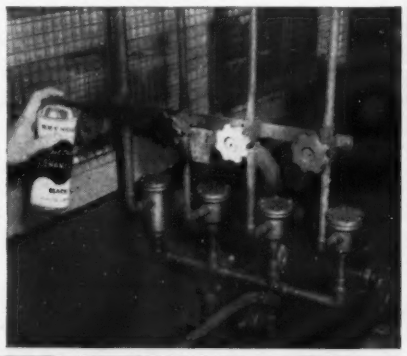
Kindly send complete information on the new Hobbs "CHP" Winder.

Name ..... *Title* .....
Company .....
Street .....
City ..... *Zone* ..... *Prov.* .....

For more details circle NED-360 H1 on enclosed inquiry slip

NEW

FAST DRYING

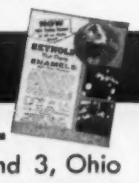


COLOR CODING ENAMELS by REYNOLDS

● The simplest and most economical way to color code inventory stocks and work in process; for identifying piping, electrical connections, fire and water valves; directing inter-plant routing of materials; inspection marking; and all other color coding operations.

Clean, fast, fool-proof. Permanent on wood, metal, plastic, corrugated board and other surfaces. Can not be accidentally removed. Suited for any inside or outside application. 16 Oz. aerosol container sprays a dense, compact cone of material at the touch of a finger. Easy to store. Always ready to use. No cans to open. No waste, no mess. Makes color coding a clean, fast, low cost operation. 18 popular colors.

Ask your REYNOLDS DEALER for BULLETIN NO. E-611.



REYNOLDS INK, INC.
2077 East 65th St. • Cleveland 3, Ohio
ORIGINAL — AND PROVEN BEST — AEROSOL INK SPECIALISTS
Ask us also about Reynolds Stencil Inks and Reynolds Stencil Kover

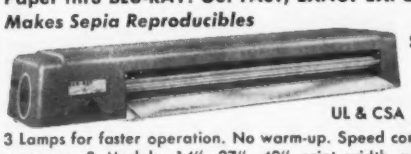
For more details circle NED-355 H1 on enclosed inquiry slip

NEW BLU-RAY Whiteprinter offers 50% MORE SPEED!

MAKES CLEAR DIAZO PRINTS IN SECONDS FOR PENNIES!

Copies anything printed, typed, drawn or written on any translucent material. Just slide Tracing and Diazo Paper thru BLU-RAY. Get FAST, EXACT EXPOSURE.

Makes Sepia Reproducibles



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3 Lamps for faster operation. No warm-up. Speed control for exact exposure. 3 Models: 14", 27", 42" print width capacities: any length. Portable.

Thousands of Guaranteed BLU-RAYS in use not because they're the cheapest, but because they're the best, most reliable dollar value. Get a demonstration and see for yourself.

AVAILABLE ON LOW COST MONTHLY LEASE PLAN

NOW BLU-RAY OFFERS 2 DIAZO DEVELOPERS

1. NEW FLUTED SEE-THRU AMMONIA DEVELOPER TUBE. FROM $11.55

2. NEW CONTINUOUS ROTARY DRY DEVELOPER FOR FASTER DEVELOPING. For use with BLU-RAY and other Rotary Diazo Whiteprinters. 3 Models from $129.50

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BLU-RAY by R.E.C. Reproduction Engineering Corporation 7 Westbrook Road, Essex, Connecticut

For more details circle NED-361 H1 on enclosed inquiry slip

REVCO

ULTRA-LOW TEMPERATURE CABINETS

for

- Research
- Storage
- Seasoning
- Testing

Seven Revco cabinets, both chest and upright styles, are available. Capacities range from 1.5 to 6 cu. ft. in chests and to 22 cu. ft. in uprights. Units provide temperatures to −140° F. controllable within ±1°. Optional accessories are offered. Immediate delivery on all units.

For your FREE copy of the helpful folder, "Selecting a low temperature cabinet," write Revco, Dept. NED-81.

Industrial Products Div., REVCO INC. Deerfield, Michigan

Setting Trends in Refrigeration Since 1938

For more details circle NED-362 H1 on enclosed inquiry slip

TEST SHAKEPROOF® LIVE ACTION LOCK WASHERS

FREE SAMPLES

Test Shakeproof Live Action Lock Washers on your product. Prove to yourself how they lock your assemblies instantly, actually hold tighter, resist loosening as stress increases. Send for a Sample Kit . . . test "Live Action" . . . it never compromises your product's reputation.

WRITE FOR FREE SAMPLE KIT NOW!

itw SHAKEPROOF "FASTENING HEADQUARTERS"® DIVISION OF ILLINOIS TOOL WORKS St. Charles Road, Elgin, Illinois

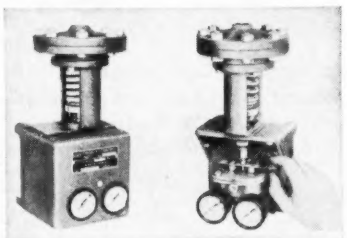
For more details circle NED-363 H1 on enclosed inquiry slip

VACUUM FURNACE for research and sintering

Operating at temperatures to 4700° F and pressures as low as 0.000001 mm Hg, Series 90 vacuum furnace is extremely versatile. It is particularly suited for metallurgical research and production sintering. Height facilitates observations and optical pyrometer readings. All controls are within 18 in. of operator and are clearly identified on the illuminated panel. Various combinations of vacuum pumps, power supplies, hot zone sizes from 2 x 4 x 24 in., heating elements, and radiation shields can be selected. • **Abar Corp.**, Hatboro, Pa.

For more details circle NED-364 H1 on enclosed inquiry slip

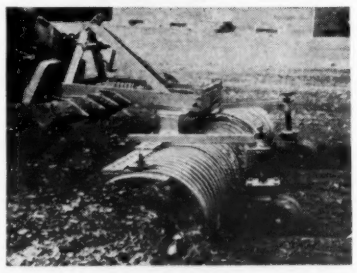
PRESSURE CONTROLLERS with adjustable proportional band



Direct-acting Type PDAP and reverse-acting Type PRAP pressure controllers cannot be damaged by weather and can be used in corrosive service or atmospheres. Designed for precise and stable control of steam, gas, or liquids, they feature single knob proportional band adjustment to "tune" pilot response to system requirements. This overcomes cycling and unstable control tendencies caused by time lags and system inertia. The pneumatic units are available from stock. • **Leslie Co.**, 129 Delafield Ave., Lyndhurst, N. J.

For more details circle NED-365 H1 on enclosed inquiry slip

RAKE ATTACHMENT for industrial area clean-up



Attached to any 3-point hitch tractor, Model RE rake will grade, level, maintain, and clean driveways, lawns, and parking areas. This attachment has a working width of 6 to 8 ft and contains 48 alloy steel teeth. It is controlled from the driver's seat. • **York Modern Corp.**, Unadilla, N. Y.

For more details circle NED-366 H1 on enclosed inquiry slip

NEW

LOW COST AIR VIBRATORY FEEDERS

- simple design
- trouble-free operation

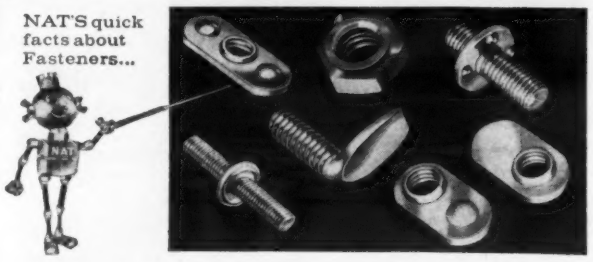
Navco's new line of air vibratory feeders feature a patented simple design. Low in original cost, they use Navco's one-piece air vibrators . . . cut maintenance costs up to 80%. Vibrators can have tapped ports for exhausting directly to remote areas in food or pharmaceutical plants. Wide range of flow rates can be obtained by varying the air pressure range from 20 to 70 p.s.i. Solenoid valves can be used for completely automatic control.

FOR NAVCO FEEDER CATALOG WRITE DEPT. ND-8

NAVCO NATIONAL AIR VIBRATOR CO. 435 Literary Road • Cleveland 13, Ohio

For more details circle NED-367 H1 on enclosed inquiry slip

NAT'S quick facts about Fasteners...



Welding Fasteners

...the little things that make a big difference

Welding fasteners put threads into the most unlikely places, and make light of the weightiest assembly problems...where hands and wrenches can't get in, for instance, or where contours and dimensions make regular fastening methods impossible. They can improve design and quality; increase production efficiency and cut costs.

We stock the most common types. We design new ones to meet special needs. Ask us about *your* applications.

The National Screw & Mfg. Company

National Products

Cleveland 4, Ohio

Los Angeles 22, Calif.

For more details circle NED-368 H1 on enclosed inquiry slip

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carries a complete stock of GAUGE GLASS and CYLINDERS

Need Gauge Glass or Cylinders in a hurry? Then write, wire or phone Swift for immediate delivery.

We have a complete stock of Pyrex Tubular Gauge Glass and Cylinders on hand for chemical, pharmaceutical or industrial applications. Supplied in any length or finish from 2 mm. O.D. to 7" O.D.

SWIFT Glass Division SWIFT LUBRICATOR COMPANY, INC.

5 Glass St., Elmira, N.Y.

For more details circle NED-369 H1 on enclosed inquiry slip

PARTLOW LIMIT CONTROLS

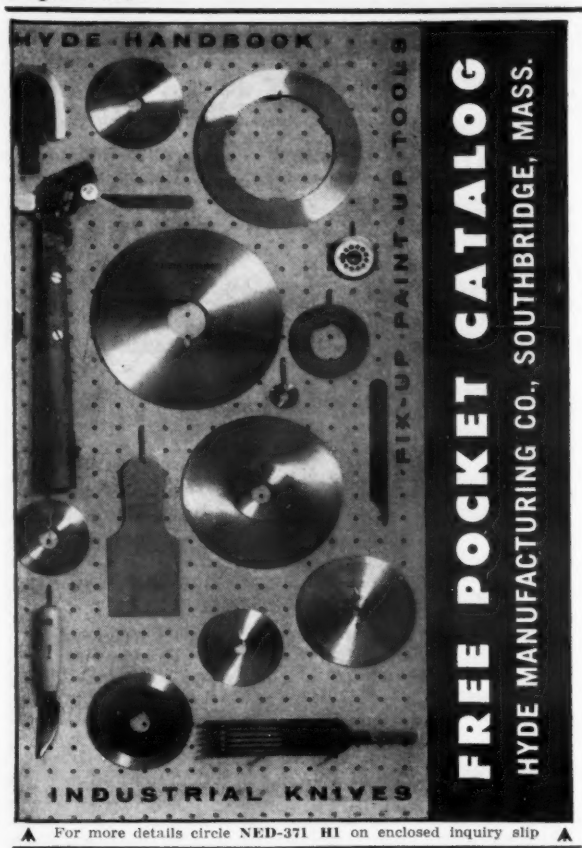
Partlow offers a complete range of mercury-actuated limit controls and safety equipment for every kind of industrial application. Indicating, non-indicating and recording models . . . rated for 15 amp. loads, and powered by Partlow interchangeable mercury elements to function anywhere from -30° to 1100°. FM-approved models feature auxiliary element failure switch, and manual reset, high-limit cut-off switch.

Ten optional temperature ranges available. Write for new Bulletin 501:

The Partlow Corp., New Hartford, N.Y., Dept. N-861.

PARTLOW TEMPERATURE CONTROLS

For more details circle NED-370 H1 on enclosed inquiry slip



For more details circle NED-371 H1 on enclosed inquiry slip

NEW 30 PAGE BOOK

Send for your FREE copy of "When to Automate"

For the metal finishing industry

"When to Automate"

Fully describes and illustrates effective solutions for handling problems in:

ELECTROPLATING, ANODIZING, PICKLING AND CLEANING, BONDERIZING or.....

any other processes requiring a sequence of washes, rinses and dips.

THE MEAKER COMPANY

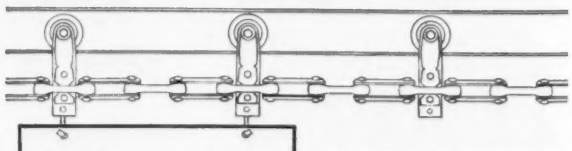
MEAKER 1899 SUBSIDIARY OF SEL-REX CORPORATION

NUTLEY 10, NEW JERSEY

Factories and offices—Chicago 50, Ill., Los Angeles, Calif., and Nutley 10, N. J.—Representatives in principal cities.

For more details circle NED-372 H1 on enclosed inquiry slip

LINK-BELT conveyor TROLLEYS



MADE IN LINK-BELT'S BALL AND ROLLER BEARING PLANT

Trolleys are only as good as their bearings. That's why Link-Belt trolleys are *MADE IN A BEARING PLANT BY BEARING SPECIALISTS.*

Simple and rugged, Link-Belt ball-bearing trolleys maintain rolling contact in all positions . . . create minimum power demand . . . give long, trouble-free service.

Available in 2- or 4-wheel types, riveted or bolted, for 3-, 4- or 6-in. I-beams.

NEW TROLLEY BOOK 2636 is now available. Send for your copy today!

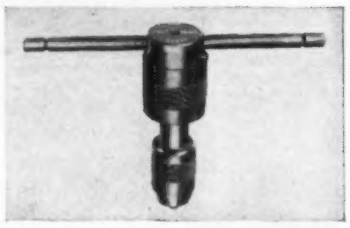
LINK-BELT

BALL BEARING CONVEYOR TROLLEYS

LINK-BELT COMPANY, Prudential Plaza, Dept. NED, Chicago 1, Ill. 15,008

For more details circle NED-373 H1 on enclosed inquiry slip

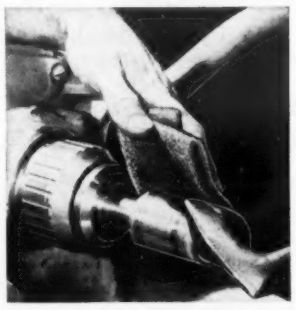
TORQUE TAP WRENCH
minimizes tap breakage



Tap Guard 625 hand tap wrench controls the torque for No. 6, 8, 10, 12, and 1/4-in. tap sizes, eliminating a major cause of tap breakage. When maximum safe torque is reached for such reasons as striking the bottom of a blind hole, encountering hard material, using an undersize tap drill, or crooked tap starting, the wrench will slip automatically at the point of setting. • **Twin City Machine & Tool Co.**, Crystal City, Mo.

For more details circle NED-374 H1 on enclosed inquiry slip

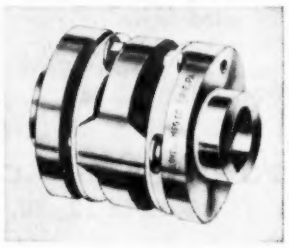
BURR-REMOVING PADS
impregnated with abrasive particles



Fast, easy removal of rust, burrs, and scratches from metal is performed manually with either of two abrasive-impregnated nylon web pads. These Scotch-brite cleaning and finishing pads are made in fine and ultrafine grades, each measuring 9 1/2 x 6 1/4 in. The pads will remove carbon, handmarks, and stains; clean copper anodes; scour glass and plastic molds; remove scuffs; blend welds; and are washable in hot water, detergents, and most solvents. • **Minnesota Mining & Mfg. Co.**, 900 Bush Ave., St. Paul 6, Minn.

For more details circle NED-375 H1 on enclosed inquiry slip

FLEXIBLE COUPLINGS
for 1/2 to 3 1/2-in. diameter shafts

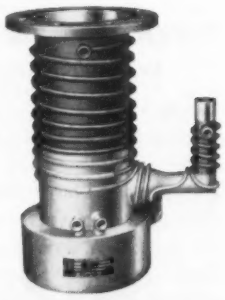


Unaffected by abrasive dust, corrosive atmospheres, or caustic splash, Lovell flexible couplings are designed around Lovellex, a nonmetallic material with a suitable modulus of elasticity and high flexural fatigue strength. Stocked units accept shaft diameters from 1/2 to 3 1/2 in. and power requirements from 0.3 to 29 hp per 100 rpm. No lubrication is required. Couplings feature light weight, zero backlash, thermal and electrical insulation between shafts, and quiet operation, and may be installed in any position. Three types accommodate angular and parallel misalignment and end float with no drop in power transmitted. • **Lovell Mfg. Co.**, Flexible Coupling Div., 1301 French St., Erie, Pa.

For more details circle NED-376 H1 on enclosed inquiry slip

NEW 4" VACUUM DIFFUSION PUMP

New Design Offers BOTH Greater Speed and Reliability in Service



The only fractionating 4" diffusion pump of its type, the Model HS4-750 starts pumping at 400 microns – delivers 750 liters/sec. from 1 micron down and reaches ultimate pressures in the 10-10 Torr range. Regardless of variations in water temperature and fluctuations in voltage, performance is assured with only a 6 cfm mechanical backing pump. This outstanding performance is made possible by a completely new boiler and heater plus the new 4-stage fractionating jet design.

The Model HS4-750 combines all the features that add up to an ideal diffusion pump: firmly anchored jet . . . silver soldered cooling coils . . . fluid-retaining foreline baffle . . . "cast-in" heater . . . low backstreaming...quick heat-up and cool-down... minimum cleaning. Immediately available at $395.00 F.O.B. Newton, Mass.

Write for our free catalog containing speed curves...see why Model HS4-750 is the best 4" pump anywhere.

160 Charlemont Street, Dept. 29-H
Newton 61, Massachusetts
DEcatur 2-5800

NRC EQUIPMENT CORPORATION

A Subsidiary of National Research Corporation

For more details circle NED-377 H1 on enclosed inquiry slip

You'll be amazed at NoDrip Plastic Coating savings

Instead of using expensive absorbent insulation or multiple coats of paint on cold pipes, tanks and air ducts, switch to NODRIP PLASTIC COATING to *permanently* stop condensation drip and corrosion! Cost is far less, application fast and simple. Applies like plaster with trowel or brush.

Non-toxic, odorless, non-flammable. Resists acids, alkalis, brine solutions or vapor. Use on metal, concrete, brick, plaster, tile. Stops condensation drip, rust and corrosion. 1 and 5 gal. cans or 55 gal. drums.

for smaller pipes use **NoDrip TAPE**

Pliable, cork-filled, self-adhering tape. No tools or fasteners.

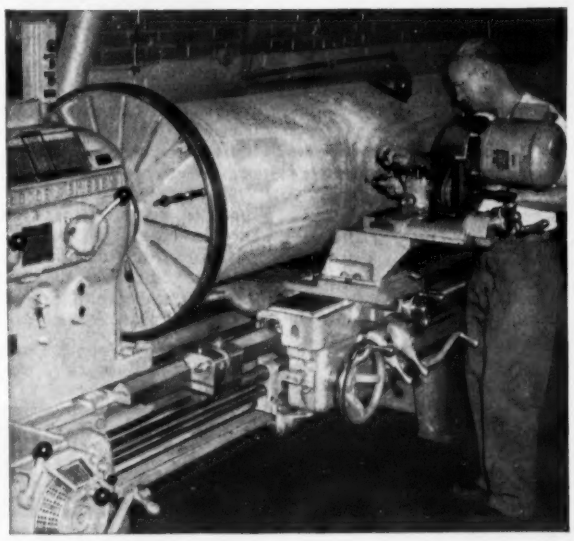
Forms 100% vapor- and moisture-proof jacket, even around unions, tees, angles, valves.

At all leading hardware, mill supply and plumbing jobbers. For full information and technical handbook write

Mortell COMPANY
526 Burch Street, Kankakee, Ill.

For more details circle NED-378 H1 on enclosed inquiry slip

1001 Ways to Machine Laminated Plastics



An Example of Synthane *You-shaped* Versatility

There are many fast, economical ways to machine laminated plastics—if you have the equipment to do the job. We have! Synthane is just about tops in U. S. for plastics fabrication. That's our business. We have all the standard tools plus many machines designed especially for the fabrication of laminated plastics. Why bother to improvise when we have what it takes to do the job—quickly and economically.

You-shaped Versatility makes Synthane a Better Buy in Laminates

SYNTHANE CORPORATION OAKS, PENNA.

Synthane Corporation, N.E. River Rd., Oaks, Pa.
Gentlemen:
Please send me information regarding the facilities of Synthane for fabricating laminated plastic.

Name_____
Address_____
City_____ Zone____ State____

For more details circle NED-379 H1 on enclosed inquiry slip

NEW FROM WHITING

speed handling with

PRESSUREGRIP vacuum lifter

Versatile Whiting Pressuregrip vacuum systems pick up even rough textures, like diamond tread plate, plywood, or concrete. Special narrow grippers are available to lift rails, beams, or even pipe.

UNDER-THE-HOOK PRESSUREGRIP UNITS (shown above) speed overhead crane operation—eliminate time-consuming chain rigging—cut materials handling costs.

CUSTOM PRESSUREGRIP VACUUM FEEDING EQUIPMENT can be designed to your requirements. Whiting engineers are at your service to automate many repetitive operations.

WRITE TODAY FOR NEW BULLETIN V-100
"Whiting Pressuregrip"

Whiting Corporation, 15660 Lathrop Avenue, Harvey, Illinois

WHITING

For more details circle NED-380 H1 on enclosed inquiry slip

---

this **UNIPAK®** can **SLASH YOUR ELECTRIC BILL**

It's no secret. It's one of Sprague Electric's power factor correction capacitors—proved in engineering principle . . . made by the world's largest capacitor manufacturer . . . listed by Underwriters' Laboratories . . . used by leading manufacturers the world over. Here's why—

Motors and similar equipment in your plant use both kilowatts (working current) and kilovars (magnetizing current). The kilowatts you buy from your electric company. The kilovars you can best supply yourself with Sprague power factor correction capacitors. And the more you supply, the greater your useful power, the less the load on present wiring, the lower your electric bill.

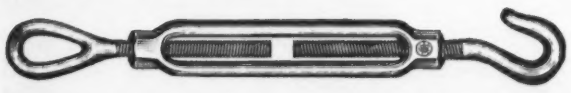
You can get a free estimate of potential savings in your plant, or literature giving more details by writing Sprague Electric Co., 183 Marshall Street, North Adams, Mass.

In Canada, write John R. Tilton Ltd., 51 McCormack Street, Toronto 9, Ont.

SPRAGUE®
world's largest capacitor manufacturer

For more details circle NED-381 H1 on enclosed inquiry slip

"UNI-SEMBLE®" the new Wilcox-Crittenden common sense way to buy turnbuckles.



1. It guarantees a sizable reduction in turnbuckle stocks

2. It gives you a flexibility never before possible

You may save yourself a lot of money by inquiring NOW from your distributor or from us about this common sense, money saving plan.

This folder tells the story.

WILCOX-CRITTENDEN

Division, North & Judd Manufacturing Co., 67 South Main St., Middletown, Conn.

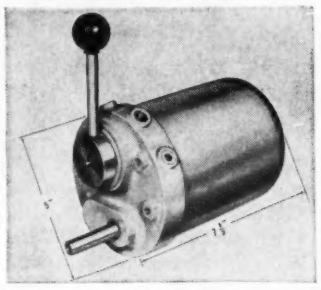
For more details circle NED-382 H1 on enclosed inquiry slip

PRODUCTION CONTROL BOARD for stock, sales, planning, control

This Movichart is a graphic sheet system using colored easy-to-move plastic signals and a pegboard type base. It is adaptable to a wide variety of business functions including stock control, sales control and progress, production planning, management organization, machine loading efficiency, safety programming, incentive accounting, and others. Various labels, codes, and signals can be combined and interchanged to set-up practically any control. The rigid perforated panels are offered in several sizes, framed or unframed, and in 6-in. square Bild-On panels which lock together to make up any size or shape of board for later expansion. Panels offer 2300 signalling positions per square foot. • **Pryor Marking Products**, 434 S. Wabash Ave., Chicago 5, Ill.

For more details circle NED-383 H1 on enclosed inquiry slip

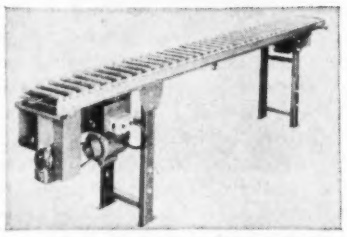
HYDRAULIC POWER UNIT delivers 2½ gpm at up to 400 psi



Self-contained Hydro-Unit is a compact hydraulic power control unit composed of a hydraulic gear pump with fingertip control, system relief valve, four-way and three-way control valves, and a 0.4-gal reservoir. It delivers up to 2½ gpm at up to 400 psi at shaft speeds to 1800 rpm. Additional reservoir capacity is available to the system when double-acting cylinders are used. Size is 5-in. OD by 10⅜ in. long including shaft extension. It can be flange or strap mounted horizontally or vertically. Less than ½ hp is required to operate the 10-lb unit at maximum pressure. • **Hein-Werner Corp.**, 1200 National Ave., Waukesha, Wis.

For more details circle NED-384 H1 on enclosed inquiry slip

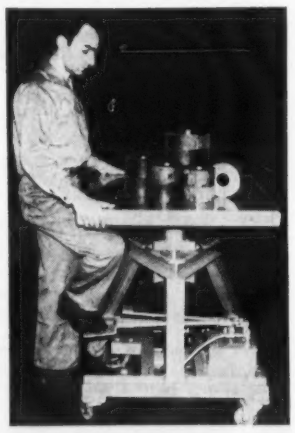
POWER-GRAVITY CONVEYOR made in 12, 18, and 24-in. widths



Gravity roller action and V-belt drive are combined in the LR Model two-way conveyor for packaged and palletized loads of all sizes. The motorized V-belt drive is easily engaged or disengaged to suit the application in assembly, packaging, inspection, and production lines. Its pressure wheel system is adjustable to insure minimum line pressure with accumulated loads. Galvanized steel or aluminum alloy rollers are spaced on 3-in. centers for various size loads. Conveyor is easily extended or shortened to meet changing requirements. Widths are 12, 18, and 24 in. Drive components are offered in kit form for attachment to Versa-Veyor gravity roller sections. • **Versa Corp.**, Box 152, Mt. Sterling, Ohio.

For more details circle NED-385 H1 on enclosed inquiry slip

ELEVATING TABLE is 1-ton capacity portable unit

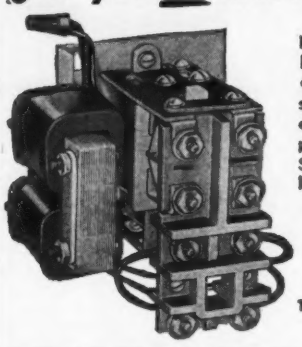


Mounted on two heavy duty swivel and two rigid casters, this Model 12 MP 2 portable hydraulic elevating table is suited for handling heavy dies, parts, castings, materials, and other loads weighing up to 1 ton. The 30 x 30-in. table is raised from 27 to 44-in. height by easy operation of the two-speed foot pump. Load is safely lowered under control of a foot-operated valve. A floor lock holds it securely in position. • **Barworth, Inc.**, 681 Morris Turnpike, Springfield, N. J.

For more details circle NED-386 H1 on enclosed inquiry slip

WARRICK
Floatless, Electrode Type
LIQUID LEVEL CONTROLS

give you all these advantages!



No moving parts in the liquid • Easy to install • No adjustments necessary • Unaffected by acids or caustics • Unaffected by pressure or temperature • Standard 2&3 pole units listed by U/L

Write for 32-page Catalog which gives complete specifications

Two pole control shown at left

YOU CAN USE OUR CONTROLS FOR:

- Single & multiple pumps
- Motor & solenoid valves
- High & low cutoffs & alarms
- Sewage & waterworks
- Chemical Industries
- Food & Dairy Industries
- OEM applications

Special controls to custom requirements

CHARLES F. WARRICK CO.
1964 W. Eleven Mile Road, Berkley, Michigan
Dep't 6 Telephone JOrdan 4-6667

For more details circle NED-387 H1 on enclosed inquiry slip

BIG NEWS

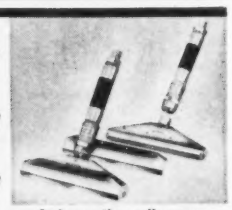
The T-J Spacemaker cylinder line is not now, nor ever has been, a probe into outer space. It is offered as a practically designed, research engineered and time tested product. Its Spacemaker feature (no tie-rods) and rugged construction gives greater strength, saves space and reduces costs in all power drive applications. The Spacemaker is available in a complete range of bore sizes and strokes, air or hydraulic, and contains many *plus features* and extras as STANDARD . . . NO EXTRA COST! Write Tomkins-Johnson, 2425 W. Michigan Ave., Jackson, Mich. for Bulletin #155-4 and for full particulars, today.

T-J TOMKINS-JOHNSON
RIVETORS · AIR AND HYDRAULIC CYLINDERS · CUTTERS · CLINCHORS

For more details circle NED-388 H1 on enclosed inquiry slip

STOP GLUE WASTE
CUT MAINTENANCE
SAVE UP TO 83%

WITH FF GLUE GUNS



Stripe-action roller gun

Roller gun, plunger actuated

Plunger-action valve body

Spot guns, machine mount

You can throw away your messy rolls, clogged brushes, open glue pots when you install FF glue guns. And you cut gluing costs up to 83%! Because the amazing FF system is totally enclosed, engineered to put glue exactly where you want it and in the precise amount required . . . fast, efficiently and without waste. Over 600 stocked models handle most mechanical and manual operations . . . with specials and miniatures available to meet any unusual gluing conditions. Easy to install and operate. Fully guaranteed. Thousands of enthusiastic users. Illustrated catalog available upon request. Write, wire or phone for your copy today.

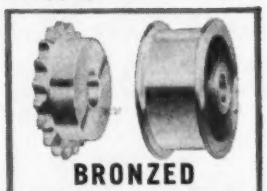
JOHN P. FOX COMPANY, INC.
1107 S. Mountain FF Monrovia, Calif.
"FF GLUE GUNS . . . since 1946"

For more details circle NED-389 H1 on enclosed inquiry slip

Controlled tensioning eliminates shock loading through excessive chain vibration, and horsepower loss through belt slippage.

• ROTATING ARM ACTION FOR GREATER ADJUSTMENT
• FULL 360° POSITIONING

A low cost tensioner for single and multiple width drives that is more adaptable to machine frames. *See your Power Transmission Distributor* or write . . .



BRONZED BUSHED IDLERS
14 SIZES
AVAILABLE FROM STOCK

BREWER MACHINE & GEAR CO.
1441 N. 2nd St. St. Louis 6, Mo.

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GOT A
CUTTING PROBLEM?

We Guarantee to Solve it or Your Money Back!

Tell us your problem and we'll send you the right saw or cutting tool. Use it for one month's free trial, then, if not satisfied, return the tool at our expense. We make this offer *only* because Huther products are of the finest quality and because we can specify the right tool for your application. Write, or phone collect.

If it's wood, metal, plastic, paper or textiles.

"We Can Cut It"

Huther Bros. Saw Mfg. Co. Inc.
1290 University Ave. • Rochester 7, N. Y.

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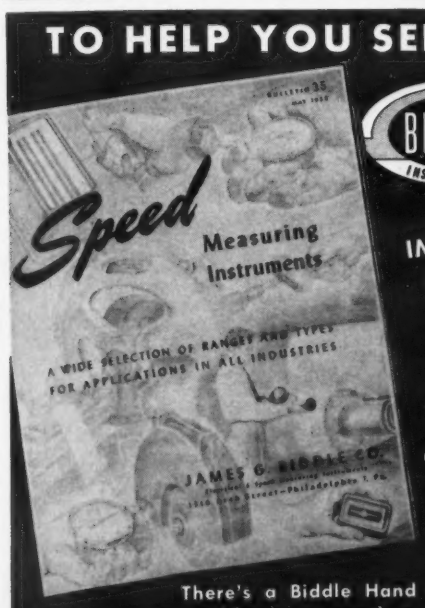
TO HELP YOU SELECT



BIDDLE INSTRUMENTS

IMPROVED MODELS

NEW TYPES

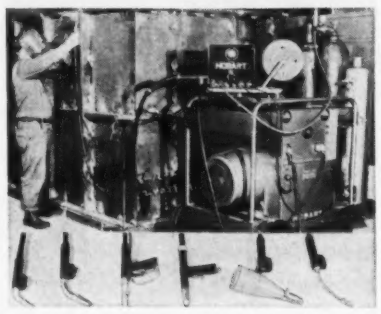
COMPLETE LINE

There's a Biddle Hand Tachometer precision-engineered for every speed measuring need . . . each complete with *all* accessories and carrying case, as required . . . and all backed by Biddle Reliable Repair Service. To help you select the Biddle instrument best for you, write for BULLETIN 35D. J-B116

JAMES G. BIDDLE CO.
Electrical & Scientific Instruments
1316 ARCH STREET, PHILADELPHIA 7, PA.

▲ For more details circle NED-392 H1 on enclosed inquiry slip ▲

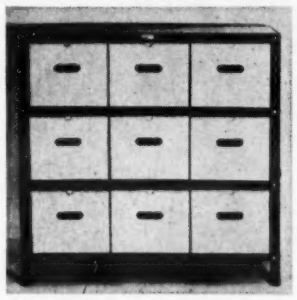
MULTIPROCESS WELDER
is 500-amp, 3 to 48-v machine



All of the new semiautomatic processes can be handled by this Multi-Wire welder. A family of welding guns has been developed for small-wire all-position gas-shielded, large-wire CO_2, combination tubular or fluxed wire and CO_2 gas-shielded, inert gas-shielded metal arc, fabricated or tubular wire, and submerged arc welding processes. Welder consists of a 500-amp motor-generator power source, a wire feeder and control circuit, a water cooling circulator, and a carryall wheel-mounted truck, plus a selection of welding gun and cable assemblies. One dial controls the output from 3 to 48 v. • **Hobart Brothers Co.**, Hobart Square, Troy, Ohio.

▲ For more details circle NED-393 H1 on enclosed inquiry slip ▲

STEEL STORAGE UNITS
with nine self-locking containers

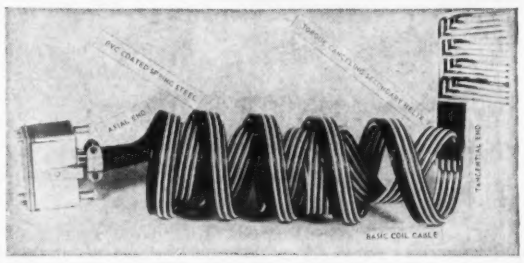


Functional Stor-Rite four-shelf storage rack for office or shop use is made of Bonderized steel, enamel-finished in gray and green. Unit measures 36 x 36 x 12 in. and is furnished with nine strong cardboard containers measuring 11 x 11 x 9¼ in. Containers are self-locking, mildew resistant, and have heavy reinforced seams. • **Ft. Steuben Metal Products Co.**, Box 268, Weirton, W. Va.

▲ For more details circle NED-394 H1 on enclosed inquiry slip ▲

EXTENSIBLE CABLE ASSEMBLIES
1 to 1000 conductors possible

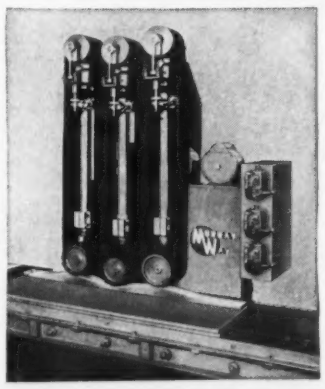
Most cable problems in electronic drawer pullouts can be solved with Spectra-Flex extensible cable assemblies. Cable consists of two multi-conductor, helical wound



cables, one wound inside the other and spiralled in opposite directions. Resultant flexible assembly has exceptional power of retraction with zero torque on the terminations. A PVC-jacketed steel spring can be added for self-retraction and abrasion resistance. Up to 1000-conductor assemblies are possible. • **Spectra-Strip Wire & Cable Corp.**, Box 415, Garden Grove, Calif.

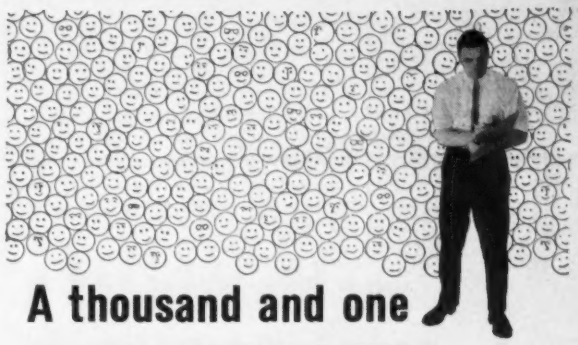
▲ For more details circle NED-395 H1 on enclosed inquiry slip ▲

MULTIPLE HEAD GRINDER
for flat, formed, contoured parts



One motor will drive up to three Multiple-Float abrasive belt heads for wet or dry grinding of flat, formed, or contoured parts. Each head floats independently of the others to permit simultaneous rough and finish grinding of a long or short workpiece as it passes under the compact units. Rise and fall of each head is controlled by the contour of the part itself, or by a cam shaped to the part where shaping or close tolerance grinding is required. Any continuous travel or reciprocating conveyor may be utilized for traversing parts beneath the heads. Belt tension is maintained by an air cylinder. Standard machine takes 5 x 90-in. belts. • **Murray-Way Corp.**, Box 180, Birmingham, Mich.

▲ For more details circle NED-396 H1 on enclosed inquiry slip ▲



A thousand and one reasons for installing USS Multigrip Floor Plate

A thousand employees are a thousand reasons for installing USS Multigrip Floor Plate. You'll be protecting yourself, too. A rolled steel plate of quality, Multigrip gives positive traction, wet or dry. Protects floors with little wear or maintenance. Won't chip, splinter, or crack. You get fast delivery of any size from your Steel Service Center. For further information, write United States Steel, 525 William Penn Place, Pittsburgh 30, Pennsylvania.

United States Steel Corporation • Tennessee Coal and Iron Division • Columbia-Geneva Steel Division • United States Steel Export Company

United States Steel USS TRADEMARK

▲ For more details circle NED-397 H1 on enclosed inquiry slip ▲

THIS FREE BOOK COULD HELP PREVENT AN ACCIDENT WHERE YOU WORK

United States Steel
525 William Penn Place
Pittsburgh 30, Pennsylvania

Please send me____copies of your free booklet, "USS Multigrip."

Name_____

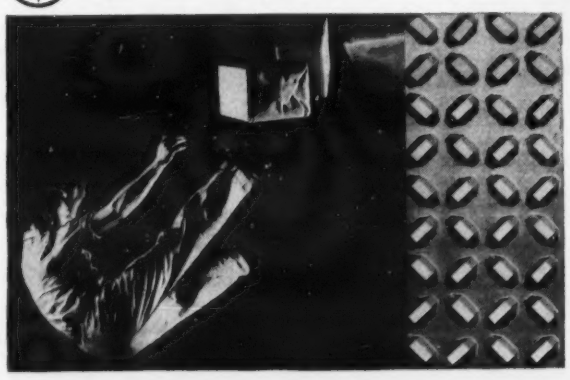
Firm_____ Address_____

City_____ Zone____ State_____

United States Steel USS TRADEMARK

▲ For more details circle NED-398 H1 on enclosed inquiry slip ▲

This mark tells you a product is made of modern, dependable Steel.



$100,000 for a fall! *It's true that slips cost more than Multigrip.* Companies have been sued for $100,000 or more because of falls. Fortunately the average cost is less than this but many settlements run over $1,000.

Falls account for about 1 in 5 industrial injuries, but you can help eliminate many of the danger spots by starting a definite program of installing USS Multigrip Floor Plate on machine shop floors, aisles, cat-walks, stairs and other accident-prone areas. Workers like Multigrip—and so does management. For information, write United States Steel, 525 William Penn Place, Pittsburgh 30, Pennsylvania.

USS United States Steel TRADEMARK

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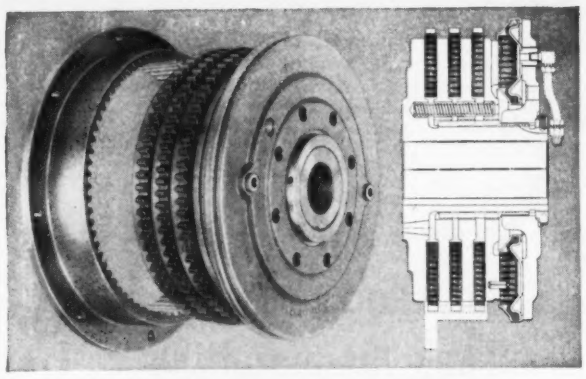


New low-cost air clutches — for *all* applications!

Three new Twin Disc PO Air Clutches! 8", 10", 11½" sizes! Triple-plate, double-plate or single-plate construction! Cost up to 40% less than comparable makes! Design features exclusive cartridge-type diaphragm of long-lasting neoprene reinforced with nylon . . . permits uniform contact—always . . . eliminates leakage! Self-compensating for wear . . . no adjustments required — ever! Narrow width permits replacement of band and drum clutches. Twin Disc now offers PO Air Clutches from 8" to 36", torque capacities to 126,600 lb.-ft.

TWIN DISC
Friction Clutches and Fluid Drives

TWIN DISC CLUTCH CO. • Racine, Wisconsin

For more details circle NED-400 H1 on enclosed inquiry slip

TROPIGLAS
NEW ROOFING MATERIAL

Rot-Proof, Blister-Proof
Age-Proof, Easily Handled

Cuts Repair to Little More than Material Cost

Made of ageless, rot-proof glass fibres, Tropiglas is tough, flexible, durable, light in weight. One man handles any length easily. It lies flat—no waiting. Partially porous, it EMBEDS in Roofkoter (no air pockets to blister, no open wrinkles!) to form a one-layer, weather-tight, longer-lasting surface. Unskilled labor can apply Tropiglas with Cold-Process Roofkoter easily and quickly . . . and repair costs are down to little more than material costs!

PARKER RUST PROOF PRODUCTS

FREE! Write for complete information on money-saving TROPIGLAS roof repair TODAY!

TROPICAL PAINT COMPANY
1124-1248 W. 70th, Cleveland 2, Ohio
HEAVY-DUTY MAINTENANCE PAINTS SINCE 1883 • SUBSIDIARY OF PARKER RUST PROOF COMPANY

For more details circle NED-401 H1 on enclosed inquiry slip

Handiest TOOL IN THE PLANT!

NEW BULLETIN
Gives all the facts.
Ask for new Bulletin

CLEMENTS
Cadillac® BLOWER-SUCTION CLEANERS

Portable — versatile — economical. Simplest, quickest way to clean motors, machinery and other equipment. Pays for itself in any plant. Ask your dealer for a demonstration.

4 BLOWER-SUCTION MODELS
...including powerful Model HP with 2-speed motor for double duty. Easy starting at low speeds prevents blowing of fuses. All models available with attachments for handling many special tasks.

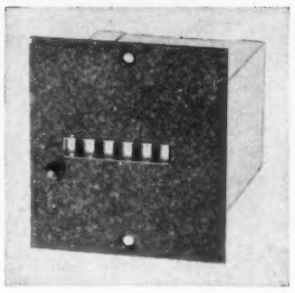
HANDLES 101 CLEANING JOBS
Blows dust, grit, chips and filings from hard-to-reach places. Use it as a suction cleaner for all kinds of jobs, or even to salvage bits of rare metal. Other models for annealing, soldering, and for preheating for bending.

BLOWER DIVISION | **CLEMENTS MFG. CO.**
6627 S. Narragansett Ave., Chicago 38, Ill.

SINCE 1910 Specialists in Quality Cleaning Equipment

For more details circle NED-402 H1 on enclosed inquiry slip

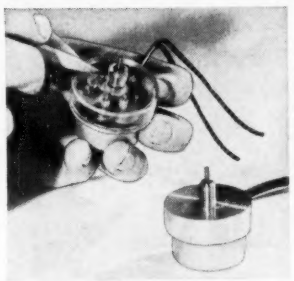
ADD-SUBTRACT COUNTER
counting rate is 25 per second



DZ Series of differential pulse counters have one set of readout wheels actuated by two coils, one to command "add" and the other "subtract," with pushbutton reset to zero. Simultaneous or overlapping pulses to the two coils produce no count and no error. Model DZ6R/o has a set of contacts closing when the counter reaches zero, used for control purposes or for displaying positive and negative values as an algebraic counter. Counting rate is 25 per second. The six-digit, 2 7/16 x 2 9/16 x 2 21/32-in. unit operates on 6 to 220 v dc, or on ac with rectifiers. Price is $62.50. • **Presin Co.**, 2014 Broadway, Santa Monica, Calif.

For more details circle NED-403 H1 on enclosed inquiry slip

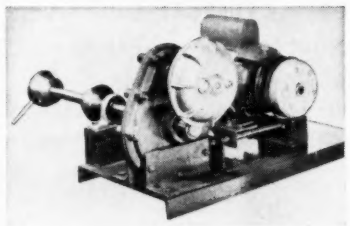
NOISELESS TIMER MOTOR
is of sealed, synchronous design



All moving parts of this synchronous timer motor are sealed in oil for noiseless life-time operation. A spring-loaded packing gland prevents loss of oil from this 1 11/16-in. diameter motor. Also submerged in oil are the variable pole arm and a magnetic directional device which assure starting reliability and direction. • **Lake City, Inc.**, 110 W. Woodstock, Crystal Lake, Ill.

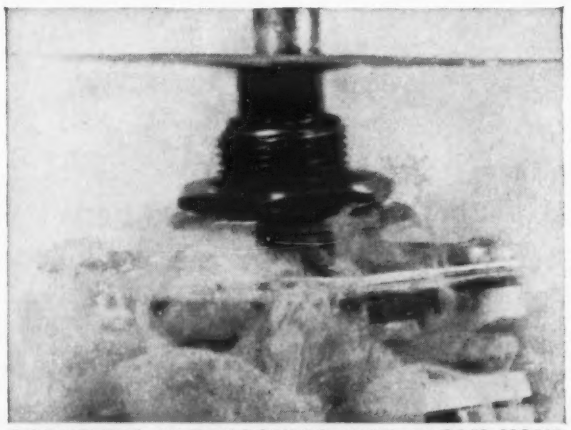
For more details circle NED-404 H1 on enclosed inquiry slip

WINDERS & DRIVES
for controlled tension winding



Fluid drive of this line of Reel-Wynders and winder drives automatically delivers increasing torque and tapered tension over core ratios as high as 8 to 1, while process speeds may vary up to 3 to 1. Equipment provides controlled tension for winding such materials as foil, plastics, paper, textiles, wire, film and filaments, metal, tape, tubing, laminations, and extrusions. Two simple controls provide a wide range of tensions and speeds. Output ratings are from 1/16 to 3 hp. Five standard sizes provide winding speeds from 3500 to 3.5 rpm. • **Fluid Drive Engineering Co.**, 313 Hibbard Rd., Wilmette, Ill.

For more details circle NED-405 H1 on enclosed inquiry slip



ACOUSTICA ULTRASONICS MAY CLEAN YOUR PRODUCT 18 TIMES FASTER!

An Acoustica ultrasonic cleaning system is the *fast* way to clean your products—no matter how dirty or complex they may be. For instance, ultrasonics reduces cleaning of ball bearing assemblies for one company from a 12-minute manual operation to a mere 40-second dip. An Acoustica cleaning system will save you time, money and manpower—and give you super-clean results! Write for free case histories.

COMPLETE LINE OF VACUUM-TUBE AND TRANSISTORIZED CLEANING SYSTEMS. WE INVITE YOUR REQUIREMENTS FOR CUSTOM-DESIGNED UNITS.

acoustica
GENERAL ULTRASONICS DIVISION
10400 Aviation Boulevard, Los Angeles 45, Calif.
463 Old Country Road, Westbury, L.I., N.Y.

COVERED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: 2,873,392; 2,947,889; 2,956,538; 2,956,789 AND BY FOREIGN PATENTS. OTHER U.S. AND FOREIGN PATENTS PENDING.

For more details circle NED-406 H1 on enclosed inquiry slip

NEW MARK IX
BIRD REPELLER
360° REVOLVING LIGHT BEAMS
rout birds in warehouses, graneries, hangers, plants

Damage to steel, grain, plant equipment and warehoused goods totals millions of $$$ annually. NOW it's easy and inexpensive to get rid of birds for good . . . *results guaranteed!* Designed especially for indoor use, the MARK IX flashes 200 intense alternate-color beams per minute. Pounding light beams and frightening shadows chase the birds—prevent nesting and feeding. Corrosion-proof, lifetime housing; 115 V or 220 V; 1500 hour bulb; easily installed.

Write for free literature

TRIPP LITE
Famous Since 1922
Division of TRIPPE MFG. CO.
133 N. Jefferson St., Dept. NED, Chicago 6

For more details circle NED-407 H1 on enclosed inquiry slip

A "Space-Age", Quik-Dry SPRAY LUBRICANT that Withstands 5000°

KGP-12B

Anti-friction • Anti-seizure • Anti-galling

KGP-12B—a pure synthetic graphite made from petroleum—is the most remarkable lubricating product ever created. Spray it on a surface to obtain a plating of lubrication that is slippery, safe in most applications up to 5000°, and will remain on the bearing or other surfaces virtually permanently. Will not wear or rub-off. Retards adhesion of hard carbons, wax, varnish to treated surfaces. Particularly useful where a wet or conventional lubricant may contaminate a product or is generally unsuitable, or where combustion hazard exists.

A suggestion of the hundreds of uses for KGP-12B:

Dry pre-lubricant for engines, bearings, etc. • Treatment for cutting tools, punches, drills to reduce friction, cut down wear, speed up operation. • Parting medium for molds, matrixes, dies, sand cores, etc. • Anti-seizure treatment for bolts, nuts, guide pins, etc. • Lubricate runners, slides. • Lubricate locks, hinges. • To retard oxidation.

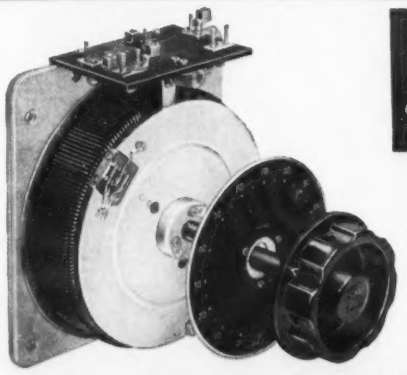
Write for full details and prices.

Available in drums for volume users.

Warehouse distributor and mill-supply house inquiries invited.

KING GRAPHITE PROD., INC.
21949 S. Telegraph • Trenton, Mich.

For more details circle NED-408 H1 on enclosed inquiry slip



Type W30
4.32 KVA

Another NEW Variac®
AUTOTRANSFORMER

Rated between the Types W20 and W50 VARIAC® autotransformers, the new Type W30 series have all of the exclusive features of these popular models, including Patented DURATRAK brush-track for extra-long life and ability to stand momentary overloads up to 1,000 per cent.

Basic Type W30 (illustrated) has a maximum rating of 36 amperes, and a rated current of 30 amperes; line voltage 120 with continuously adjustable output from 0 to 140 volts. Price: $75.00

Other models for 240-volt lines (0 to 280 v. output); cased and uncased units, ganged models, ballbearings, motor drives etc. Three-phase ganged units are rated up to 15.6 Kva.

Write for complete Information

GENERAL RADIO COMPANY
WEST CONCORD, MASSACHUSETTS

Broad Avenue at Linden, Ridgefield, N. J. **NEW YORK AREA** 1000 N. Seward St. **LOS ANGELES**
8055 13th St., Silver Spring, Md. **WASHINGTON, D. C.** 1150 York Road, Abington, Pa. **PHILADELPHIA**
1186 Los Altos Ave., Los Altos, Calif. **SAN FRANCISCO** 6605 W. North Ave., Oak Park, Ill. **CHICAGO**
In **CANADA:** 99 Floral Parkway, **TORONTO 18**

For more details circle NED-409 H1 on enclosed inquiry slip

NEW! Announcing a full line of

PERMATEX COATING COMPOUNDS

(stronger than concrete)

- ★ Easily applied — trowel, brush or spray
- ★ Four special products to meet every need
- ★ Four attractive colors
- ★ Covers metal, wood, concrete
- ★ Economical — one single coat protects
- ★ Resists chemicals, solvents, water, wear

PRODUCED BY THE WORLD'S LEADER IN SEALANTS...PROVEN BY PERFORMANCE!

FREE LITERATURE AND TECHNICAL ASSISTANCE . . . WRITE NOW!

This line of Permatex Coating Compounds, as all Permatex Products . . . sealants, adhesives, lubricants, degreasers, solvents . . . are available from quality Industrial Distributors.

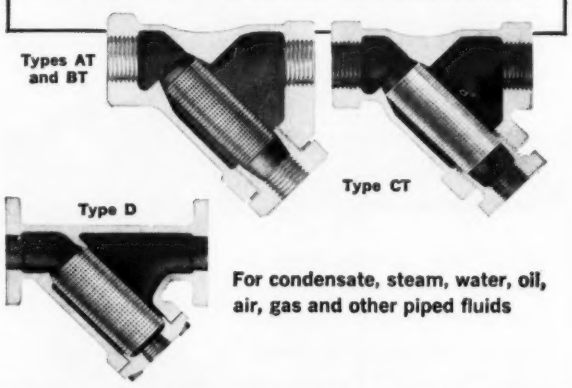
PERMATEX COMPANY, INC.

DPT. NED3R • 300 BROADWAY • HUNTINGTON STATION, L. I., N. Y.
FACTORIES: BROOKLYN 35, N. Y. • KANSAS CITY 15, KANSAS
SEALANTS • ADHESIVES • LUBRICANTS

▲ For more details circle NED-410 H1 on enclosed inquiry slip ▲

Insure operation of steam traps, pumps, valves, compressors, with

SARCO PIPELINE STRAINERS



For condensate, steam, water, oil, air, gas and other piped fluids

Effective, inexpensive insurance against costly shutdown caused by dirt, scale, or chips in pipelines. Install ahead of regulators, meters, nozzles, etc., to protect working parts. Rigid metal screen. No weave crevices to trap particles. Readily cleared by blowdown connection.

Select from full line of bodies, screens, ratings, types. For bulletin contact your Sarco sales representative, sales office, or distributor, or write:

6895

SARCO COMPANY, INC.
635 MADISON AVE., NEW YORK 22, N. Y.
PLANT: BETHLEHEM, PA.

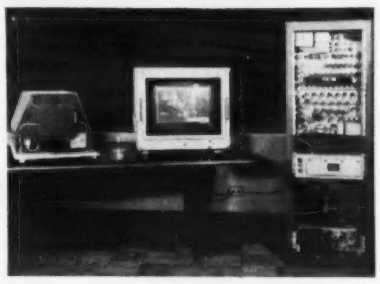
▲ For more details circle NED-411 H1 on enclosed inquiry slip ▲

TEMPERED
SPRING STEEL USERS
PLEASE NOTE ... Roebling can help you to get more blanks from a coil—with tempered cold rolled spring steel. Heat-treating finished parts isn't necessary. Widths up to 8⅜". Thicknessess .005" to .1875", depending on width ordered. Surface to meet your specs, in any finish — blued, strawed or bright, plain or ground. Ask Roebling's Wire and Cold Rolled Steel Products Division, Trenton 2, New Jersey.

ROEBLING
Branch Offices in Principal Cities
John A. Roebling's Sons Division
The Colorado Fuel and Iron Corporation.

▲ For more details circle NED-412 H1 on enclosed inquiry slip ▲

REMOTE MICROFILM READOUT gives magnified TV picture



Complete remote control of image at magnifications up to 300X or more is afforded by this Microfilm Televiser. Any particular area of the film can be selected and displayed at any number of closed-circuit television monitors as well as at the control station. Both picture orientation and magnification are controlled with a single control stick. Optional switch permits selection of a white-line or a black-line image. • **General Precision, Inc.,** GPL Div., 63 Bedford Rd., Pleasantville, N. Y.

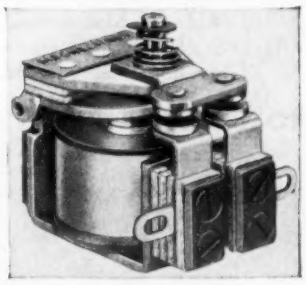
▲ For more details circle NED-413 H1 on enclosed inquiry slip ▲

JIG BORING MACHINE has 7 x 17½ or 6½ x 10-in. table

Double-width base ways, large table and saddle bearing areas, easy reading reference scales, and alloy iron saddle are design features which contribute to the accuracy of this Model 1A jig boring machine. Eight spindle speeds of 275 to 4250 rpm are quickly selected on this ½-in. collet capacity machine. Table size is 7 x 17½ or 6½ x 10 in. Longitudinal and cross travels of table are 10 and 6½ in., and quill travel is 3 in. Standard equipment includes a ½-hp 110 or 220-v ac motor, two belts, and any collet up to ½-in. size, plus wrenches and adjustable light. • **Linley Brothers Co.,** 682 State St. Extension, Bridgeport 1, Conn.

▲ For more details circle NED-414 H1 on enclosed inquiry slip ▲

50-AMP RELAY in several contact arrangements



Reliable switching of heavy currents in small space is possible with this Class 88D power relay. The 50-amp contacts can be single-pole double-throw, normally-open or normally-closed, and double-break. Positive contact wipe is assured at both make and break. Stock relays with normally-open contacts are suited for 6, 12, 24, and 115-v ac or dc with prices from $4.75 to $6.75. Weight is 3 oz. • **Magnecraft Electric Co.,** 3350K W. Grand Ave., Chicago 51, Ill.

▲ For more details circle NED-415 H1 on enclosed inquiry slip ▲

paging plus private 2-way intercom

New dual-function Executone units keep every man on your staff in instant contact . . . let you locate and talk with people anywhere in your plant or offices, or on the grounds . . . even in high-noise areas.

Executone Dept. E5
415 Lexington Ave., N. Y. 17, N. Y.

Please send detailed information on **paging and intercom** for

☐ low-noise areas Name_____
☐ hazardous areas Company_____
☐ high-noise areas Address_____
☐ outdoor areas City_____ Zone____ State_____

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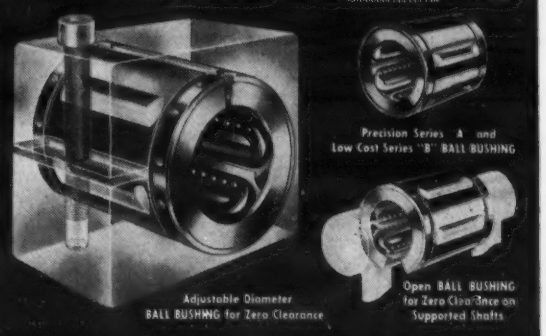
NOW! Adjustable Diameter and Open

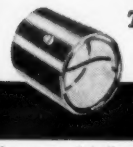
THOMSON **BALL BUSHINGS**



The BALL Bearing for *all* your **LINEAR MOTIONS**

LOW FRICTION • ZERO SHAKE OR PLAY
ELIMINATE BINDING AND CHATTER
SOLVE SLIDING LUBRICATION PROBLEMS
LONG LIFE • LASTING ALIGNMENT

The various types cover a shaft diameter range of ⅛" to 4". Small sizes available in Stainless Steel. Write for literature and name of our representative in your city.



THOMSON INDUSTRIES, Inc.
Dept. C, MANHASSET, NEW YORK

Also manufacturers of NYLINED Bearings . . . Sleeve Bearings of DuPont NYLON

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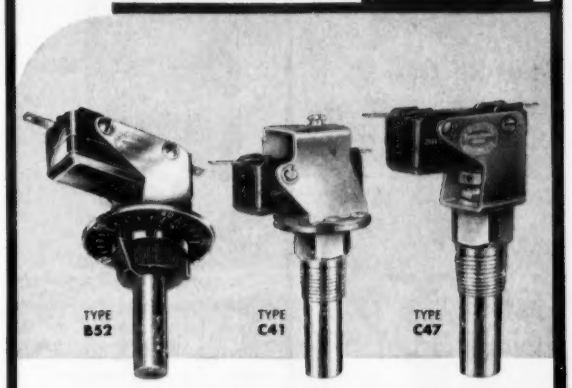
SPACE OR WEIGHT LIMITATIONS? B52 | C41 | C47



Specify Local Mounted UE SKELETON TYPE TEMPERATURE CONTROLS

UNITED ELECTRIC temperature controls are precision-built, compact and economical. Type B-52 was designed especially for controlling air temperatures . . . Type C41 and C47 for liquid or hot plate temperatures . . . These controls are direct-immersion units designed for easy installation.

Temperature Ranges	Type C41 & C47 100° or 200° between 0° and 425° F limits. Type B52 calibrated 40° F spans between 30° and 120° F.
Thermal Assemblies	various immersion lengths . . . liquid-filled seamless brass bellows operate by hydraulic action
Switch Ratings	15 amps or 20 amps at 115 or 230 volts A.C.; also D.C. switches available upon specification
Switch Actions	N.O., N.C., or Double Throw, no neutral position
Electrical Connection	attached directly to screw or solder terminals on switch
Size & Weight	approx. weight . . . 4½ oz., approx. size . . . 3⅞" x 2" x 1¼"
Variations	design variations available upon specification

UNITED ELECTRIC *manufactures a complete line of temperature, pressure and vacuum controls. For applications requiring custom-built units or modified standard units, call upon a UE application engineer for recommendations. Write for complete specification and pricing data on the Type B52, Type C41 or Type C47 local mounted temperature control, and for information regarding other United Electric temperature controls.*

United Electric Controls COMPANY
85 SCHOOL STREET, WATERTOWN, MASS.

▲ For more details circle NED-418 H1 on enclosed inquiry slip ▲

AISLE MARKER conveniently dispenses Permacel colored vinyl tape. Abrasion-resistant tape is waterproof, washable, more durable than paint. Adheres firmly to any floor surface. Available in six colors.

PERMACEL® NEW BRUNSWICK NEW JERSEY

Tapes • Electrical Insulating Materials • Adhesives

For more details circle NED-419 H1 on enclosed inquiry slip

AMES

Masters of Measurement

PORTA-CHECK®
A transistorized comparator for fast, accurate measurement to .00001".

200 SERIES
One of four sizes; made to AGD specifications.

For more than half a century, Ames measuring instruments have been regarded as the finest available. Wherever precision is *really* important . . . you'll find Ames indicators, gauges, micrometers and comparators on the job.

Representatives in Principal Cities

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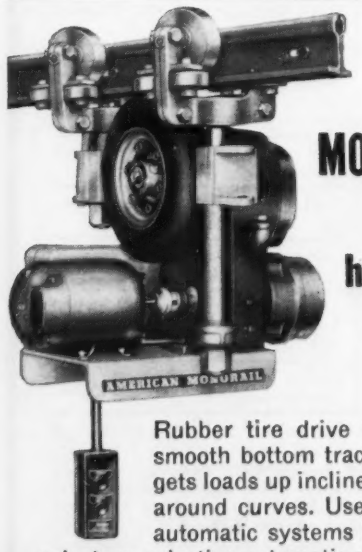
34 Ames Street, Waltham 54, Mass.
Canadian Office — B. C. Ames Co., 45 Oriole Parkway, Toronto
MANUFACTURERS OF MICROMETER DIAL INDICATORS AND GAUGES

For more details circle NED-420 H1 on enclosed inquiry slip



MONOTRACTOR pulls heavy loads overhead

Rubber tire drive wheel rides any smooth bottom track. Good traction gets loads up inclines, down inclines, around curves. Use with manual or automatic systems including station selectors, selective automatic switching devices, electrical block systems, automatic trains, automatic loading devices, automatic selective discharge systems, cycle control panels.

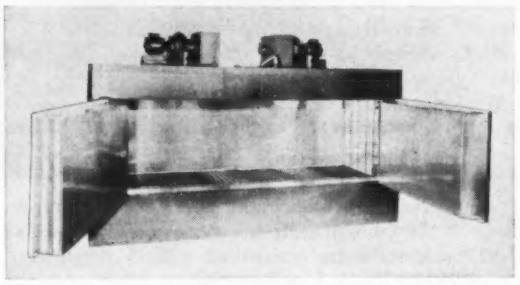
Write for Bulletin C-2

AMERICAN MONORAIL 1116 E. 200th STREET CLEVELAND 17, OHIO

For more details circle NED-421 H1 on enclosed inquiry slip

LARGE OVEN
temperatures controlled to 1000° F

Inside chamber dimensions of 96 in. wide, 30 in. high, and 24 in. deep, combined with directed recirculation of chamber atmosphere, adapt this oven for many



heating, baking, drying, testing, and other purposes. The Thermoshell heating elements, rated 48 kw on 230 or 440 v 3-phase ac, are on the rear wall behind a stainless steel baffle. Two blowers force chamber air down over the heating elements to a plenum chamber below the cast grid hearth, and thence up through the chamber. Operating temperature of 1000° F maximum is closely controlled by a thermocouple pyrometer. • **Cooley Electric Mfg. Corp.**, 31 S. Shelby St., Indianapolis 7, Ind.

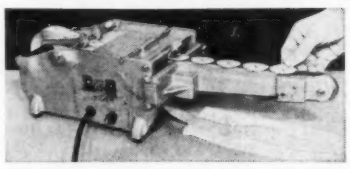
For more details circle NED-422 H1 on enclosed inquiry slip

PACKAGED MOVING STAIRWAY
has reversible two-way operation

Fast, safe, nontiring transportation of employees between floors is provided by the Autostair, a compact, preassembled moving stairway with reversible two-way operation. Unit runs only when needed. It will accommodate up to 450 persons per hour to facilitate personnel movement at lunch hours, coffee breaks, or other periods of high traffic. Price is about $5000 installed. • **D. A. Matot, Inc.**, Autostair Sales, 1533 W. Altgeld St., Chicago 14, Ill.

For more details circle NED-423 H1 on enclosed inquiry slip

ROLL LABEL DISPENSER
feeds separated labels on demand



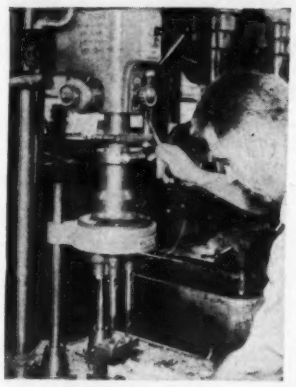
This PS-100 pressure-sensitive roll label dispenser, which takes label rolls up to 6 in. wide and 6 in. in diameter, peels the labels from the backing strip and delivers them to a fixed point on the protruding arm. When one label is removed, another automatically is fed into position. Labels are easy to pick up from either side or front, allowing two or more operators to work from one machine. • **Lakso Co.**, Box 442, Fitchburg, Mass.

For more details circle NED-424 H1 on enclosed inquiry slip

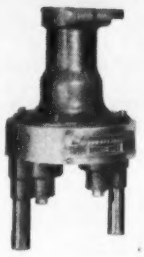
CUSHION TIRE LIFT TRUCKS
2000 and 2500-lb capacity units

Lift trucks added to the Hyster line include the cushion tire Space-Saver 20 and 25 series rated at 2000 and 2500 lb capacity, respectively. Both series are designed for operator comfort and engine accessibility. Units are identical in performance, with the 2500-lb capacity truck capable of handling full 2000-lb loads with a wide range of attachments. Monotrol control system combines forward-reverse and throttle control in the right-foot pedal, and includes dashboard "drive" and "park" pushbuttons plus an automatic parking brake. Power-shift, or manual two-speed transmissions are offered. Units also have full-flow hydraulic oil filter and a dry-type engine air filter which is removable with flick of a thumbscrew. • **Hyster Co.**, Box 4318, Portland 8, Oreg.

For more details circle NED-425 H1 on enclosed inquiry slip



MULTI-DRILL makes holes at a PROFIT!



This Model 600 MULTI-DRILL, — an adjustable multiple spindle drill press attachment—fitted with optional Guide Rods, is drilling two ½" holes in a work piece at every stroke of the drill press—and is reducing hole costs to the basic minimum. The same unit is used on three other set-ups to drill holes ranging from 3/32" dia. to ⅝". Quickly adjustable spindles and heavy duty construction make this MULTI-DRILL a versatile time and money saving production tool that pays for itself many times over. Ask your nearby Commander Distributor to show you how a MULTI-DRILL can help solve your multiple spindle drilling problems. There's a model and size for any application or drill press.

Write for Production Tool Catalog.

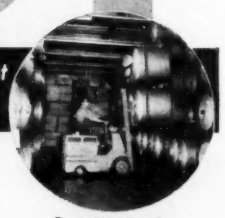
108

Commander MFG. CO.
4220 WEST KINZIE • CHICAGO 24, ILLINOIS

For more details circle NED-426 H1 on enclosed inquiry slip

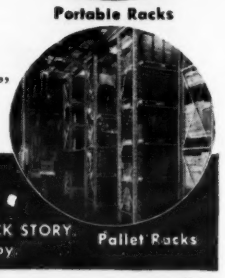
101 PALTIER WAYS TO STORE MORE IN LESS SPACE

PALTIER Racks — *the best quality for the least cost!*



Portable Racks

PALTIER manufactures the only rack system with all 12 of the most necessary quality engineered features and "Built Like a Skyscraper."



Pallet Racks

FREE... The STORAGE RACK STORY. Write for your copy.

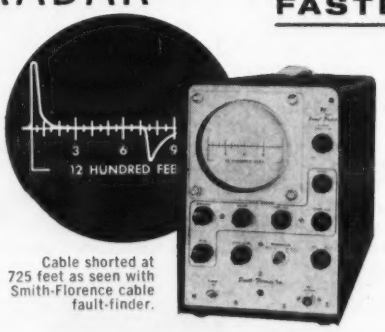
391

The PALTIER CORPORATION
1705 Kentucky Street • Michigan City, Indiana
Paltiersmen in All Principal Cities

For more details circle NED-427 H1 on enclosed inquiry slip

Cable Faults?

RADAR FINDS THEM FASTER



Cable shorted at 725 feet as seen with Smith-Florence cable fault-finder.

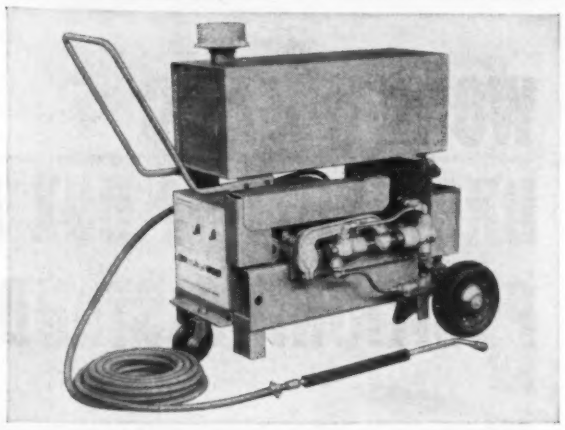
4

SMITH-FLORENCE electronic fault-finders speedily solve electrical cable servicing problems by giving you a "picture" of exactly where the trouble is and what it is. Using the radar principle, these dependable S-F instruments permit accurate ranging from *only one end of the cable* to pinpoint shorts and open circuits. S-F offers a variety of models with ranges from 200 feet to 100 miles for servicing in missiles, aircraft, ships, industrial plants and communication systems. Prices: $375 to $695.

Get more details — including how you can use S-F fault-finders for other important jobs — by writing to:

SMITH-FLORENCE INC.
4228 TWENTY-THIRD AVENUE WEST, SEATTLE 99, WASHINGTON

For more details circle NED-428 H1 on enclosed inquiry slip



Plant Clean-up a headache?
Multi-Job Washer is Sure Cure

Mighty, but small, Jenny Multi-Job Washer takes the headache out of plant clean-up. Its combination of pressure cleaning solution and controlled electric heat cleans machinery, walls, floors, equipment in a jiffy. Takes no more room than a 55-gallon drum. Portable, self-contained for continuous operation. Costs only $450. It's all-electric—so, no fumes. No flame. No fogging. For full time-saving, work-saving details, write or check item number.

HOMESTEAD VALVE MANUFACTURING COMPANY
Hypressure Jenny Division–Coraopolis, Pa.
(In Canada: Hypressure Jenny Sales & Service, Ltd. 517 Jarvis St., Toronto 5, Ont., C.S.A. Approved)

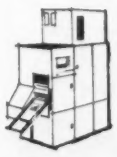
▲ For more details circle **NED-429 H1** on enclosed inquiry slip ▲

XEROGRAPHY
for engineering-drawing reproduction

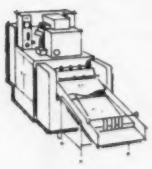
...takes the "wait" out of print duplicating... annual savings from $5,000 to $200,000!

Xerographic copying equipment is saving hundreds of major industrial firms all over the country up to $200,000 annually! This clean, fast, dry, electrostatic copying process eliminates costly waiting of highly paid personnel—gives you high quality prints on ordinary paper, in minutes! There's no capital investment; equipment is available at modest monthly rentals.

For high-quality offset paper masters: Model 1218 copying equipment prepares sharp, inexpensive paper masters from original drawings of A to D size. Larger drawings are perfectly reduced to 12" x 18" masters, from which multiple prints are run off in seconds!



Volume reproduction from original drawings or roll microfilm: Sharp, dry, ready-to-use prints, on ordinary paper, vellum, or offset paper masters up to 11" wide, are made at the rate of 20' a minute. Copyflo® Continuous Printers enlarge, reduce or copy size-for-size from original drawings or roll microfilm (16 or 35mm).



Copyflo 24C

Reproduction from card-mounted microfilm: The Copyflo 24C and the exciting new 1824 Printer automatically produce dry, positive prints on ordinary paper, vellum, or offset paper masters from 35mm card-mounted microfilm! The Copyflo 24C produces ready-to-use prints, up to 24" x 36", at the rate of 20 linear feet a minute. The new, low cost 1824 Printer, for small volume or large, decentralized users, produces prints from 8½" x 11" to 18" x 24"!

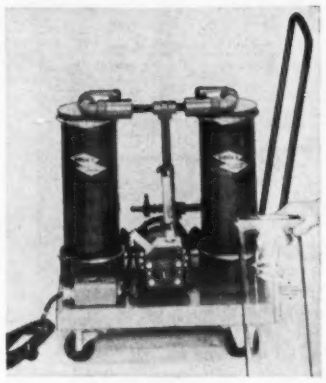
1824 Printer

Get all the Facts! Write XEROX CORPORATION (formerly Haloid Xerox Inc.), 61-211X Haloid Street, Rochester 3, New York. Branch offices in principal U.S. and Canadian cities.

XEROX CORPORATION

▲ For more details circle **NED-430 H1** on enclosed inquiry slip ▲

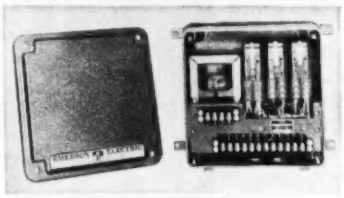
GOLD RECLAIMING UNIT
saves 97 per cent from plating bath



Utilizing twin-connected, clear Lucite columns charged with PM/79 resins, the Aurion-X Gold Resin Reclaim removes over 97 per cent of gold from alkaline or acid electroplating solutions and rinses. It reclaims this amount in one pass, even from open-end cascade rinse systems. Resin charges have a capacity of up to 30 Troy ounces. When saturated, cartridges can be returned intact for processing as part of the reclaim-refine service also offered by company. Stand-by cartridges are easily installed without interrupting the process. • **Precious Metals Recovery Corp.**, 85 River Rd., Nutley 10, N. J.

▲ For more details circle **NED-431 H1** on enclosed inquiry slip ▲

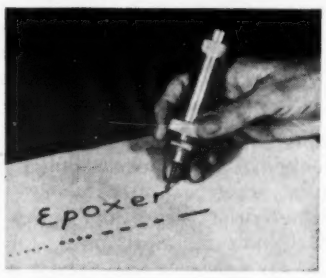
LEVEL CONTROL SYSTEM
for liquids, flowing solids, powders



Transi-Level transistorized level control system can be equipped with ceramic angle probes for powdered materials; heavy duty probes for coal, gravel, and similar materials; flush probes for use in rotating stirrers; and extension probes for detecting the build-up or level of cement or sand in large bins. System has considerable flexibility when applied to liquids, flowing solids, or powders. Standard single-phase unit operates on 115 or 230 v, 50/60 cycles; 12 and 24-v battery units are available for use on static or mobile vehicles. Standard relay control units for single and dual level systems can be mounted at any distance from the probe units, and connected by two-wire leads. • **Emerson Electric Mfg. Co.**, Industrial Electronics Div., 8100 Florissant Ave., St. Louis 36, Mo.

▲ For more details circle **NED-432 H1** on enclosed inquiry slip ▲

LIQUID EPOXY DISPENSER
produces dots, drops, or beads



Epoxer hand dispenser for epoxy adhesives and potting compounds affords finger-tip control in metering the amount and rate of flow, with positive cut-off. It will dispense minute dots, drops, or beads of filled or unfilled materials with water to heavy paste viscosities. All components are reusable or replaceable. Cartridge can be used for refrigerated storage of catalyzed materials until required for dispensing. Price, with charging nozzle and extra needle, is $48. • **Kenics Corp.**, Box 27, Greenwood Station, Wakefield, Mass.

▲ For more details circle **NED-433 H1** on enclosed inquiry slip ▲

HYDRAULIC TAPPING HEAD
displays torque being delivered

Once preset torque is achieved by this Model T-300 Hydra-Tapper, it will automatically reverse, clear the chips in the cutting tool, and then reverse again to continue the cutting cycle. The machine monitors and displays the torque that is being delivered to the cutter. A 1-hp 3-phase motor drives the hydraulic pump. Chucks are available for tap sizes to 3 in. The standard machine will drive a 1½-in. tap and develop 400-lb-in. torque at 1500 psi. Torque can be increased to 800 lb-in. optionally. Machine has 13 spindle speeds between 90 and 611 rpm. Depth control is within ¼ revolution of spindle. It will tap to the center of a 22-in. circle. • **Milman Engineering Co.**, 11162 Santa Monica Blvd., Los Angeles 25, Calif.

▲ For more details circle **NED-434 H1** on enclosed inquiry slip ▲

WEAR RESISTANT
THOMSON

AVOID the HIGH COST and difficulty of fabricating long, hard & straight parts by conventional methods...

60 Case
hardened and ground

SHAFTS, ROLLS, GUIDE RODS and other long-round parts ELIMINATE WEAR and REDUCE COST

ADVANTAGES of *60 Case*

- COST REDUCTION
- HARD BEARING SURFACE
- NICK- & DENT-PROOF
- ACCURATE DIAMETERS
- GROUND FINISH
- STRAIGHT PARTS
- DELIVERY FROM STOCK
- ADDED STRENGTH
- UNIFORM HIGH QUALITY

60 Case material has a Rockwell 60C surface hardness which is essential to reduce wear.

Big savings are offered over conventional methods which are plagued with erratic warpage, straightening and resultant grinding problems. Finished *60 Case* parts frequently cost less than the scrap losses that result from conventional methods.

Stocked in ¼" to 4" diameters. Available with or without special machining. *Write for literature and name of your local representative.*

TYPICAL *60 Case* PARTS

GUIDE RODS, SHAFTING, ROLLS, TRAVERSE RAILS, PISTON RODS, ARBORS, LEADER PINS, TIE RODS, KING PINS, AXLES, CONTROL RODS, GUIDE POSTS, MANDRELS, BEARING ROLLERS, SPINDLES

For emergency needs call collect MAnhasset 7-1800

THOMSON INDUSTRIES, Inc.
Dept. C2, Manhasset, New York

PARTS HARDENED to 60 C...increase life...reduce cost!

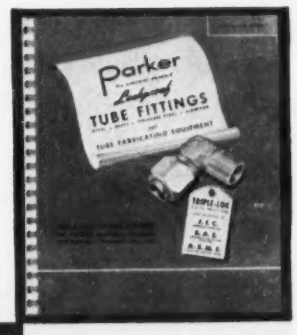
▲ For more details circle **NED-435 H1** on enclosed inquiry slip ▲

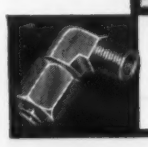
Cylinder selection and pricing is easy with 3 Hannifin Data Books

Get complete dimensional data and prices on all 3 lines of Hannifin Hydraulic Cylinders. For 2,000 psi systems (3,000 psi non-shock) we offer our famous heavy-duty Series "H". For circuits operated off 1,000 psi pumps, there's the new Series "L", the "thousand-pound" line; also, the "universal" Series "U". New price sheets are easy to use. They tell you when we can ship as well as what your cylinder will cost. Write us today.

HANNIFIN COMPANY
527 South Wolf Road • Des Plaines, Illinois
A DIVISION OF PARKER-HANNIFIN CORPORATION

▲ For more details circle **NED-436 H1** on enclosed inquiry slip ▲





Pick the right tube fitting quicker with this 128-page Parker Data Book

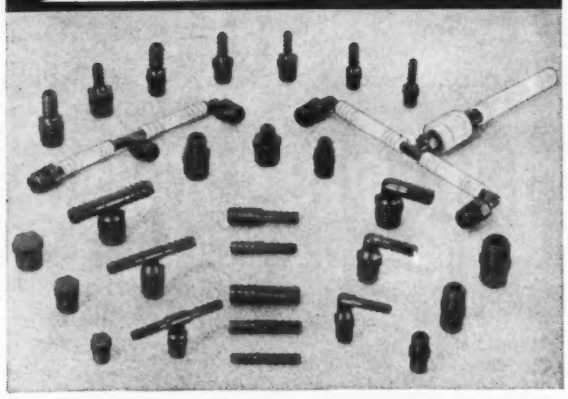
All the data to design or "tube up" an industrial system is included in this 128-page Parker Tube Fittings Catalog. Guides you in proper tube selection. Gives installation hints, also descriptions and dimensions of all Parker Fittings: "Triple-lok," "Ferulok," "Intru-lok," "Weld-lok," "Braze-lok," in steel and stainless steel, copper, aluminum, brass, for any industrial system from instrument lines to high pressure hydraulic lines.

Ask your Parker distributor, listed in the Yellow Pages, for a Parker 4300 Catalog. Or write...

Parker FITTINGS AND HOSE DIVISION
17325 Euclid Avenue • Cleveland 12, Ohio
A DIVISION OF PARKER-HANNIFIN CORPORATION

▲ For more details circle **NED-437 H1** on enclosed inquiry slip ▲

THOGUS Tubing and Hose Fittings
(A THOGUS COMPANY PRODUCT)



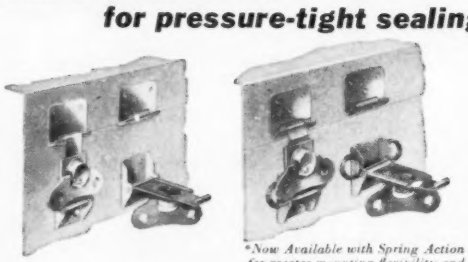
Here's a new line of plastic tube and hose fittings molded of high density polyethylene. Made in iron pipe sizes from 1/8" to 3/8" for a wide variety of applications. Thogus tube and hose fittings are non-corrosive, chemical resistant, with high-impact strength and may be sterilized. Write for literature and prices.

EXCLUSIVE MANUFACTURERS AND SALES AGENTS

IPF INDUSTRIAL PLASTIC FITTINGS DIVISION
The R & K Plastic Industries Company
3891 W. 150th ST. • CLEVELAND 11, OHIO

For more details circle NED-438 H1 on enclosed inquiry slip

Look to LINK-LOCK* for pressure-tight sealing



*Now Available with Spring Action for greater mounting flexibility and automatic take-up... where desired.

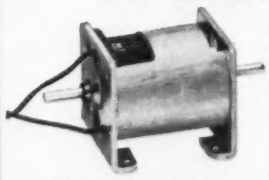
Here's a positive-locking fastener you can use wherever preloaded closure is desired. Heavy pull-down pressure insures water-tight sealing when gaskets are used. Offered in three sizes, LINK-LOCK is compact, simple in design, economical. Open or closed, it always lies flat. Provides excellent impact and drop-test resistance, is trouble-free even at −70° F. A natural for instrument cases, storage boxes, etc. Write for samples and 40-page catalog.

SIMMONS FASTENERS
Quick-Lock · Spring-Lock · Roto-Lock · Link-Lock · Dual-Lock · Hinge-Lock

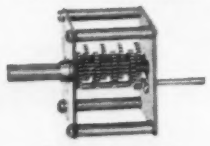
SIMMONS FASTENER CORPORATION
1793 NORTH BROADWAY, ALBANY 1, N. Y.

For more details circle NED-439 H1 on enclosed inquiry slip

NEW MINIATURE D.C. MOTORS AND TORQUE CONVERTERS



"Compact 875" Motor



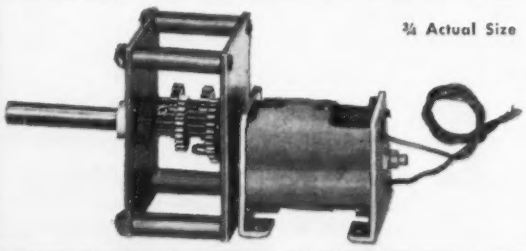
Torque Converter

WILSON'S "Compact 875" 3 to 12 volt, d.c. motor is the first of a new series of high power circular magnet motors designed for light industrial applications where economy of space and costs are required. It features new barium ferrite magnet, spring backed brushes, all metal body, self-oiling bearings, rapid reversibility. It is only 1" high - 1 1/8" long - 7/8" wide. Precision made. Highest quality. Used with a small torque converter it is a midget for space but a powerhouse for torque delivered at drive shaft.

Write for Specification Sheet 875, —or individual sample motor— post paid $4.00.

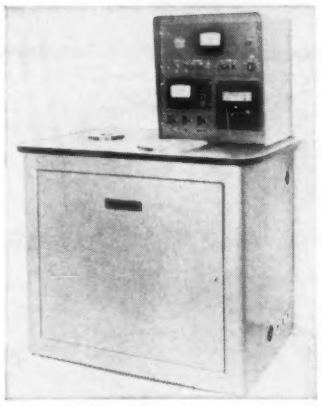
WILSON'S of CLEVELAND
(Formerly of Cleveland, O.)
P. O. Box 8995 • 6502 N.W. 16th Street • Ft. Lauderdale, Fla.

3/4 Actual Size



For more details circle NED-440 H1 on enclosed inquiry slip

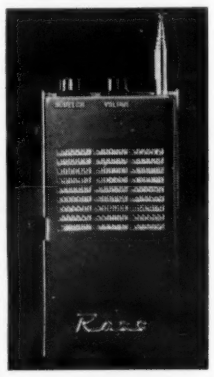
VACUUM PUMPING SYSTEM for metallizing and furnace work



Completely packaged 2, 4, and 6-in. high vacuum pumping systems include a diffusion pump, liquid nitrogen trap, mechanical pump, air-operated high vacuum valves, pushbutton controls, sequence control, and electrical interlocks. These units are suited for use with bell jars for thin-film deposition, vacuum furnaces, ovens, altitude simulation chambers, electron tube exhaust, and other similar high vacuum applications. • **Tri Metal Works, Inc.**, Industrial Div., 1600 Bannard St., Riverton, N. J.

For more details circle NED-441 H1 on enclosed inquiry slip

TWO-WAY RADIO pocket type weighs 23 oz

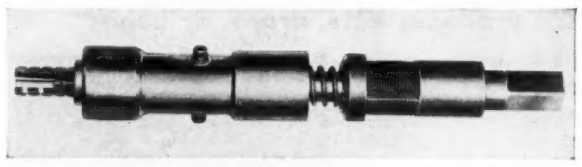


Twelve-transistor Model 300 Pocket Talkie two-way radio provides personal business communication under all operating conditions. It has an automatic noise limiter, a variable squelch control to allow silent standby operation, and 150 milliwatts of audio output for hearing in noisy areas. A dual antenna system makes possible communication over moderate range without using the telescoping antenna. Radio weighs 23 oz, measures 6 1/2 x 3 1/8 x 1/2 in., and costs $124.50, including batteries. • **Ross Laboratories, Inc.**, 124 Lakeside Ave., Seattle 22, Wash.

For more details circle NED-442 H1 on enclosed inquiry slip

SERRATING TOOL cuts grooves in tube sheet holes

Driven by a pneumatic or electric motor, this serrating tool facilitates the installation of tubes in heat exchanger and condenser tube sheets. It cuts serrations or grooves in the tube sheet holes to assure tight, leakproof joints when rolling or expanding tubes into tube sheets. Morse taper, square, and three-jawed chuck drives are available. • **Airetool Mfg. Co.**, 328 S. Center St., Springfield, Ohio.



For more details circle NED-443 H1 on enclosed inquiry slip

CORROSION? WEAR?

End pump problems with ADVANCED

Deming End Suction Centrifugal Pump. 1" to 6" discharge size. 10 G.P.M. to 2400 G.P.M. Heads to 240 feet. 1/4 H.P. to 25 H.P. Most sizes right or left hand rotation.

DEMING CENTRIFUGALS

Deming advance design features show you why Deming Pumps handle toughest jobs with ease—

■ Liquid ends range from tough cast iron to special corrosion-resistant alloys.

■ 4-piece liquid ends get rigid, leak-stopping support — from ruggedly designed power end and 2-ball bearing suspension.

■ You can regulate capacity and head—because of Deming axial adjustment.

■ A Deming is the simplest to service.

Send your problem to Deming—"Pump Information Headquarters."

THE DEMING CO.
806 Broadway • Salem, Ohio

Write for Bulletin 4011-E

For more details circle NED-444 H1 on enclosed inquiry slip

WORK-O-MATIC DROP-BOTTOM BOX AN POSITIONING STAND

Partners in handling Simplification

For details, request Catalog No. 89.
The Union Metal Manufacturing Company,
Canton 5, Ohio

UNION METAL
Material Handling Equipment

For more details circle NED-445

Electrical Protection *with* BUSS Fuses

at the Doric 6th Ave. Motor Hotel, Seattle, Washington

Owner: DORIC CO., Seattle, Wash.
Architect: DOUGLAS A. BACON, Bellevue, Wash.
Electrical Contractor: LAKESIDE ELECTRIC CO., Bellevue, Wash.

Travelers staying at this new, luxurious 175 unit motor hotel enjoy the latest conveniences of electrical living. Even the rooms are heated electrically so each person may select the room temperature he prefers.

These modern services require large electrical capacity. As a result, the available fault current is approximately 70,000 amperes.

Safe protection against faults of this magnitude is assured by th BUSS Hi-Cap fuses installed in th main entrance service. These fuse have an interrupting rating o 200,000 amperes rms. symmetrical

To maintain safe, modern pro tection throughout the electrica system,—and to safeguard agains unnecessary interruptions in elec trical service, FUSETRON dual element fuses are installed in th branch circuit switches.

For more details circle NED-446

Your Authorized S

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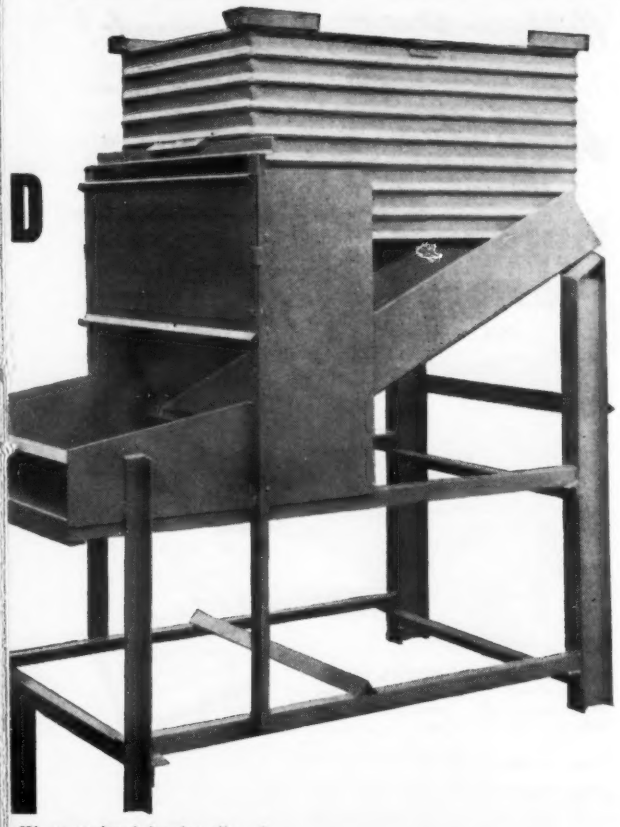
SK

Advanc

For more details circle NED-447



H1 on enclosed inquiry slip ▲

goes MODERN

Mr. S. Andrew Sharpe, Manager of Lakeside Electric Co., at main Switchboard of Doric Motor Hotel.

Mains and feeders protected with BUSS Hi-Cap fuses. Branch circuits protected by FUSETRON dual-element fuses.

For more information on

FUSETRON dual-element fuses write for bulletin FIS

BUSS Hi-Cap fuses write for bulletin HCS

BUSSMANN MFG. DIVISION *McGraw-Edison Co.* ST. LOUIS 7, MO.

H1 on enclosed inquiry slip ▲

SKF *distributor*

ishes you a

pleasant vacation

Don't worry about bearings while you're away. Your SKF distributor is always on call, ready to help solve bearing problems if they occur. Anyone in your organization can call him. So enjoy yourself! 7848

MOTION ENGINEERING

ed ball and roller bearing technology

H1 on enclosed inquiry slip ▲

SEVEN-CIRCUIT TIMER
16 ranges from 6 sec to 60 hr

All load connections are internally wired independently to a 14-point terminal block of the improved Series 305B timer. Capable of controlling seven individual load circuits, the automatic reset dial unit rotates in one direction only. Key locking of the time setting and a bezel for flush mounting in panels are optional. Plug-in and non-plug-in types are available, the latter convertible at any time. Timer is the same size as the Model 305 it replaces, and is available in 16 dial ranges from 6 sec to 60 hr for controlling alternating or direct current industrial processes, laboratory equipment, and automated machines. • **Automatic Timing & Controls, Inc.,** King of Prussia, Pa.

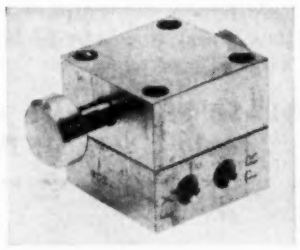
▲ For more details circle **NED-448 H1** on enclosed inquiry slip ▲

SUBMINIATURE SWITCH
handles 5 amp at 125-250 v ac

The Cricket Switch line of precision subminiature snap-action switches includes a basic single-pole double-throw unit with a series of lever actuators and toggle or pushbutton operated assemblies. They are rated 5 amp at 125-250 v ac on inductive and resistive loads, 4 amp at 30 v dc resistive, and 2.5 amp at 30 v dc inductive at altitudes to 50,000 ft. The two moving parts are a leaf spring and the pushbutton. • **Fansteel Metallurgical Corp.,** Contacts & Specialties Div., 2200 Sheridan Rd., North Chicago, Ill.

▲ For more details circle **NED-449 H1** on enclosed inquiry slip ▲

PRESSURE GAGE ISOLATOR
for pressures up to 5000 psi



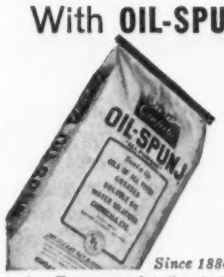
Damage to pressure gages in hydraulic circuits at pressures to 5000 psi is prevented by this Series 1500 gage isolator. The subplate mounted device is a normally-closed spring-returned three-way valve which is opened by pushing a button when gage is to be read. The gage is isolated when the button is released. This snubber effectively stops pulsation, chatter, and fluid hammer. It is also available with ¼-in. threaded ports for inline mounting. • **Sarasota Precision Products, Inc.,** 5757 McIntosh Rd., Sarasota, Fla.

▲ For more details circle **NED-450 H1** on enclosed inquiry slip ▲

STOP SLIPPING ACCIDENTS

SOAK UP OILS GREASE CHEMICALS

With OIL-SPUNJ



Oil Spunj, the specially processed sanitary clay, absorbs soluble oil, lubricating oil, grease, acids, chemicals on wood, metal, or concrete. Just spread on, leave until saturated, and sweep off. Re-use with soluble oil. U. L. Approved. Meets automotive mfgrs. specs. For data and prices, write Dept. ND-8.

Since 1886 CANFIELD OIL CO. Cleveland 27, Ohio • VU 3-8630

▲ For more details circle **NED-451 H1** on enclosed inquiry slip ▲

WEDGMOUNT

ADJUSTABLE MACHINERY MOUNTS

... control the vibration of any machine

- Easily installed without bolts or cement
- Wide range of sizes to mount any machine
- Easy leveling adjustment
- Other models for use where bolting to the floor is mandatory, or where mount becomes integral part of machine tool.

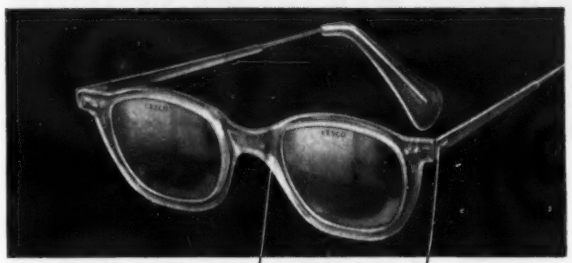
Write for full information.

Air-Loc DIVISION

Clark, Cutler, McDermott Company
5 WEST CENTRAL ST. • FRANKLIN, MASS.

▲ For more details circle **NED-452 H1** on enclosed inquiry slip ▲

1 Frame with 2 Universal Features



New CESCO Polyfit Bridge and New CESCO Interchangeable Temples

• New CESCO Polyfit frames have not one but two features to make them adaptable to the widest range of nose and facial contours. New Polyfit frames feature gleaming nickel-silver temples which are interchangeable with other CESCO plastic frame glasses or with most safety glasses equipped with 5-barrel hinges. Tapered temples, fastened with Sur-Loc pins, come in two styles—cable or spatula. Polyfit frames in flesh tone plastic are available with or without side shields.

• Your choice of two sizes: No. 316 (46 x 39mm), No. 318 (48 x 41mm)
• Popular F7 shape lenses are removable for easy "on-the-spot" repair

Ask your distributor to show the new CESCO *Polyfit safety glasses. There's a* CESCO *distributor in most major cities*

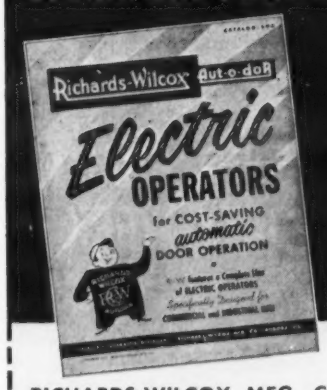
CESCO FOR SAFETY

CHICAGO EYE SHIELD COMPANY
2715 W. Roscoe St., Chicago 18, Illinois

▲ For more details circle **NED-453 H1** on enclosed inquiry slip ▲

NEW CATALOG

DESCRIBES R-W ELECTRIC OPERATORS FOR DOORS & GATES!



R-W offers a complete line of top-quality Electric Operators for doors and gates specifically designed to meet the rugged demands of industrial use. Whether it swings ...slides ...raises or folds—R-W can open it—*automatically*.

MAIL COUPON TODAY

RICHARDS-WILCOX MFG. CO.
435 WEST THIRD STREET
AURORA, ILLINOIS

Please send, without obligation, my free copy of Catalog No. 200.

NAME _____
FIRM _____
ADDRESS _____
CITY _____ STATE _____

▲ For more details circle **NED-454 H1** on enclosed inquiry slip ▲

TRIAL SAMPLE

Of World-Famous WHITMORE'S Lubricants For Roller, Ball, Sleeve Bearings

WHITMORE'S ANTI-FRICTION COMPOSITIONS HAVE NO MELTING OR DROPPING POINT

Packaged in 14½ oz. cartridges for handy application with lever-type cartridge guns for constant protection to roller, ball, sleeve bearings and sliding surfaces in "hot" bearing applications or in areas with high ambient heat. Exclusive formulas have no melting or dropping point; moisture resistant; will not wash out; exceptional metal adherence properties; temperature reducing qualities; high extreme pressure values. Available in two grades. Whitmore's Anti-Friction Composition No. 1 (light density), recommended for high speed, high temperature applications. Anti-Friction Composition No. 2 (heavy density), for low-speed high-temperature applications or loosely-fitted bearings. Specify No. when requesting free trial sample.

68 YEARS OF LEADERSHIP LUBRICATING THE FOLLOWING:

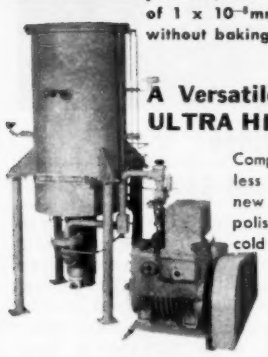
- Open Gears, Dipper Sticks, Cams
- Open and Enclosed Chain
- Hydraulic Units, Torque Converters
- Speed Reducers
- Enclosed Gear Cases
- Roller, Ball, and Sleeve Bearings
- Wire Rope and Cable

Est. 1893
THE WHITMORE MANUFACTURING CO.
LUBRICATING ENGINEERS
CLEVELAND 4, OHIO • VULCAN 3-7272

For more details circle NED-455 H1 on enclosed inquiry slip

Ultra High VACUUM PUMPING SYSTEM

TYPE 1450 employs only the newest proven technology and components. In design, selected materials, and precise workmanship it offers a practical, *ultra high* vacuum system for pressures of 1 x 10^{-8}mm Hg., or lower, in a few hours, without baking or metallic gasketing.



Shop View of Type 1450 showing diffusion and mechanical pumps.

TYPE 1450
A Versatile, Practical, Inexpensive ULTRA HIGH VACUUM FACILITY

Completely factory assembled, this valveless system has double-pumped O-rings; new high speed 6" diffusion pump; large, polished, stainless steel liquid nitrogen cold trap in bottom half of chamber, plus an effective anti-migration barrier.

Optional Items: baking equipment for 250°C. to lower ultimate pressure; feed-throughs for instrumentation, power, and cover-supported pay-load; internal heating and cooling devices; automatic liquid nitrogen level control device.

OTHER ADVANTAGES:
Unobstructed Work Area — 22" x 24" with vacuum instrumentation.
Suitable for Prolonged Tests — Best Available Proven Components
High Pumping Speed

Write for Descriptive Brochure or complete quotation.

GENERAL VACUUM CORPORATION
81 HICKS AVENUE, MEDFORD 55, MASSACHUSETTS EXport 5-8100

For more details circle NED-456 H1 on enclosed inquiry slip

ALL-NEW 990 IMPACT WRENCH

NEW LIGHTWEIGHT CHAMP FOR HEAVY-DUTY WORK

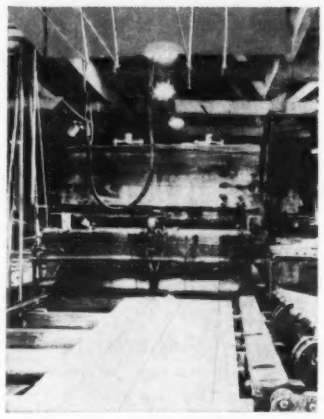
Here is a compact, lightweight (21 lbs.) tool for the toughest kind of work in the roughest environments. The new 990 Impact Wrench does up to 1¼" high tensile bolting with less vibration, less torque and positive full engagement regardless of power input. Master Power's exclusive "roll action" and cam-timed impact mechanism results in ultimate power, maximum life, greater maneuverability. You owe it to yourself to try this new tool now.

LOOK UNDER TOOLS—PNEUMATIC

Leading Distributors Everywhere
MP Master Power
Master Power Corporation • Solon, Ohio
A Black & Decker Subsidiary

For more details circle NED-457 H1 on enclosed inquiry slip

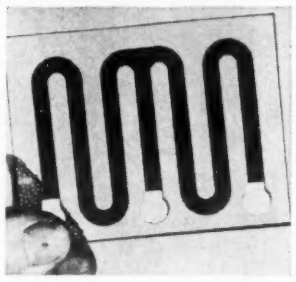
SHADOW LINE GUIDE for cutting, sawing, or marking



Minimum of material waste and increased production result from use of the Edgerlite, a movable shadow line guide. Suspended above work, it is applicable to the cutting, sawing, marking, or assembling of wood, metal, plastic, and paper. Original use was in conjunction with an edger in sawmills. Device facilitates the setting of saws and other equipment prior to use. Each shadow line guide has an individual light and shadow bar for each saw, and is individually adjustable. • **Cascade Industries, Inc.**, Edgerlite Div., Box 868, Bend, Oreg.

For more details circle NED-458 H1 on enclosed inquiry slip

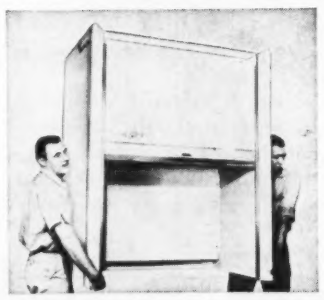
GLASS HEATING ELEMENT for temperature up to 300° C



Suited for commercial use as a low temperature warmer or for spot heating applications, this compact glass heating element has an electrically-conductive path selectively coated with metallic film on Pyrex 7740 borosilicate glass. This material has excellent insulating properties and can withstand corrosives and thermal shock. The film becomes part of the glass surface and will not normally rub, flake, peel, or wear off. The unit can produce temperatures in excess of 300° C, with glass sizes from 1 to 27⅜ in. square and from 3/32 to ¼ in. thick. Resistance can be from 6 to 100 ohms/sq in. of coating. Maximum dissipation is 10 w/sq in. of coated area. • **Corning Glass Works**, Box 544, Corning, N. Y.

For more details circle NED-459 H1 on enclosed inquiry slip

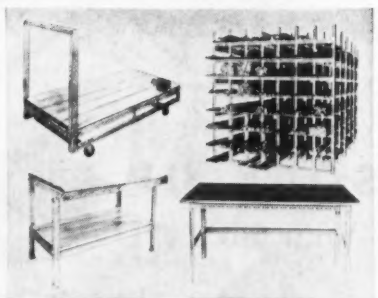
GLASS FIBER FUME HOOD weighs only 175 lb with ¼-hp motor



Handled easily by two men, this 175-lb Fiberglas 47 fume hood, molded of chemical resistant polyesters over glass fibers, is complete with blower, sash, and interior light. It is available in white, green, or gray and can be mounted on any cabinet or table with a surface measuring 47 x 30 in. Unit's dimensions are 60 x 47 x 29 in. Blower, powered by ¼-hp, 115-v motor, is mounted in a box-like recess in the rear wall. Conventional baffle controls air flow over working surface and in upper hood. The hood sash is ¼-in. Plexiglas with a clear polyurethane coating which prevents clouding. • **Laboratory Construction Co.**, 8811 Prospect, Kansas City 32, Mo.

For more details circle NED-460 H1 on enclosed inquiry slip

RACK & FRAMING KITS for storage units, benches, guards



Furnished knocked-down for easy erection on the job, KD kits of AIM slotted angle framing material cover a wide variety of needs. Included are 120 storage units, 82 storage racks, 17 work benches, 13 tables plus a foreman's desk, and 27 regular and heavy duty carts. Kits include framing members sheared to required lengths, necessary fittings, and fasteners. Units can be disassembled and parts reused for other purposes. • **Acme Steel Co.**, Fabricated Materials Div., 135th Street & Perry Avenue, Chicago 27, Ill.

For more details circle NED-461 H1 on enclosed inquiry slip

Hardness Readings in 2 seconds!

Webster PORTABLE Hardness Testers FOR NON-FERROUS METALS

TWO LOW-COST MODELS differing in sensitivity for rapidly testing hardness of aluminum, brass, copper, etc. No training required; one hand operation. Hardness readings in 2 seconds anywhere in shop. Can be correlated to standard hardness scales. Quick reading dial. Special anvil design tests all shapes: sheets, extrusions, tubing, strip stock. Capacity ¼". Simple, rugged design, easy maintenance.

Free FOLDER provides full information and shows sectional views.

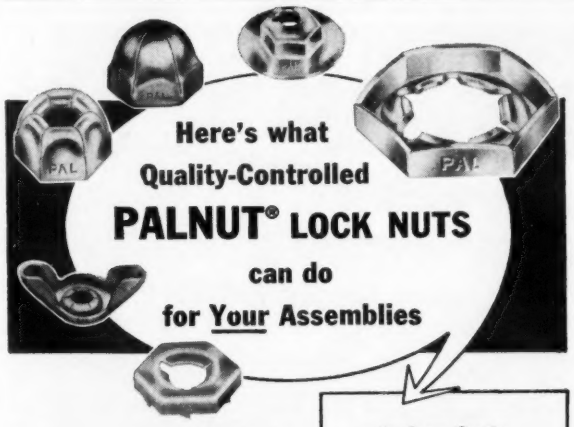
MODEL B Direct hardness readings on all aluminum alloys.

MODEL B-75 Direct hardness readings on copper, brass, etc.

Other models available

WEBSTER INSTRUMENTS, INC. Dept. N, 11856 Mississippi Ave. Los Angeles 25, California

For more details circle NED-462 H1 on enclosed inquiry slip



Spring tempered steel PALNUT Lock Nuts cost less than other methods—replace tapped nuts, lockwashers, flat washers and sealer washers—save bolt space—save up to 85% on fastener weight—assemble fast with ordinary manual or power tools, extra fast with magnetic PALNUT wrenches. Double-locking action is vibration-proof. Many types, sizes and finishes.

- Reduce Costs
- Reduce Parts
- Speed Assembly
- Hold Securely
- Save Space
- Save Weight

• Write for detailed catalog and Free Samples

THE PALNUT COMPANY, 45 Glen Road, Mountainside, N. J.
DIVISION OF UNITED-CARR FASTENER CORPORATION
Canada: P. L. Robertson Mfg. Co., Ltd., Milton, Ont.

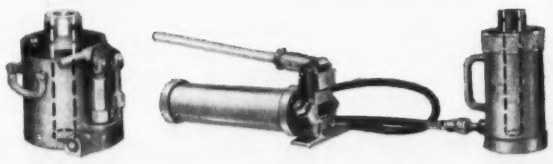
PALNUT® Lock Nuts and Fasteners
for quick, secure fastening at low cost

For more details circle NED-463 H1 on enclosed inquiry slip

PUSH or PULL 6 times faster with SIMPLEX

Pull or push right through the hole in the center of the ram which provides its own back-up . . . Simplifies rigging, eliminates torque, makes jobs 6 times faster and easier.

"CENTER-HOLE" HYDRAULIC JACKS and PULLERS



"JENNY" Self-Contained Hydraulic Pullers
6 models, 30 to 100 tons capacity; specials to 600 tons. Single and double pump types, reading gauge optional.

"RE-MO-TROL" Hydraulic Jacks and Pullers
Remote-controlled, center-hole and solid rams, hand or powered pumps. 15 general-duty models; 10 to 150 tons capacity. 25 heavy-duty models; 150 to 300 tons capacity. Wide range of accessories.

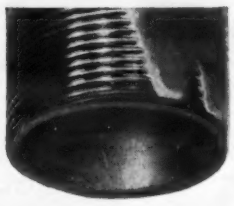
Write for Catalog Hydraulic

SIMPLEX RE-MO-TROL UTIL-A-TOOL JACKS JENNY ROL-TOE

TEMPLETON, KENLY & CO.
2565 Gardner Road
Broadview, Illinois

For more details circle NED-464 H1 on enclosed inquiry slip

SEAL FOR SURE ...USE KEY-TITE



Protect joints from seizing with Key-Tite waterproof sealing compound. It lubricates while it seals and is completely non-toxic... safe for potable liquids, fully effective for water, gas and low-pressure lines.

Send for circular 239-B, P. O. Box 2117, Houston, Texas

W-K-M DIVISION
ACF INDUSTRIES

For more details circle NED-465 H1 on enclosed inquiry slip

INDUSTRIAL EPOXY RESIN IN TUBES

ACTUAL SIZE • 11 OZ. INDUSTRIAL METALSET A4

Just squeeze out equal amounts from each Metalset A4 tube, mix and apply. Use only what you need. Save the rest for the next job.

Smooth-On's Metalset A4 can be used in any thickness, is water and oil proof, chemically stable and has great adhesion.

Typical repairs include leaks in tanks, pipes; caulking conduits, flues, casements; filling holes in metal and wood; tightening loose parts; anchoring bolts and screws in wood, concrete and plaster.

Order from your industrial distributor; if he does not yet stock Metalset, order direct from us. Six ounce unit is $1.98, eleven ounce unit is $2.98. Also available in units of cans. Descriptive bulletin is available on request.

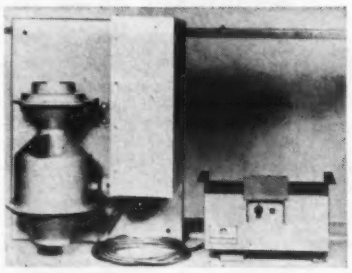
80 443

METALSET®

Made by Smooth-On Manufacturing Company
572 Communipaw Avenue, Jersey City 4, N. J.

For more details circle NED-466 H1 on enclosed inquiry slip

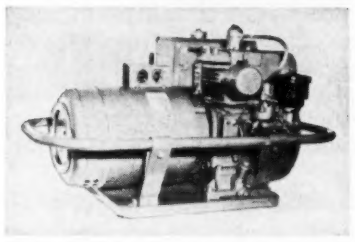
DRY MATERIAL FLOW METER precisely measures by weight



Carbon black, pelletized products, and wood chips are among the many types of materials that are measured with an accuracy of ±1 per cent by the Dry-Flow meter. It measures the flow by weight. It has only one moving part, an air bearing which withstands dusty or corrosive atmospheres. Readout is by changing the flow pressure to electrical current through a transistorized electronic unit incorporating a piezomagnetic transducer. Model A meters are offered in seven models for 2 to 14-in. spouts and measure from 5 to 3500 lb per minute. • **Industrial Powertronix, Inc.**, 811 S.W. Sixth Ave., Portland 4, Oreg.

For more details circle NED-467 H1 on enclosed inquiry slip

PORTABLE ENGINE-GENERATORS in up to 4000-w ac units

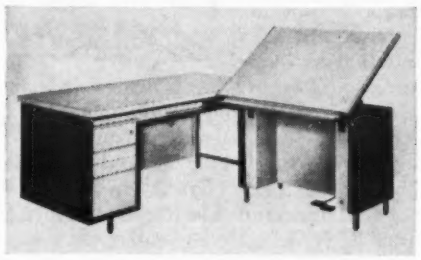


Providing a dependable source of electric power for electric tools, lights, appliances, and machines, these portable engine-generators are now made in 3600-rpm 1000, 2000, 3000, and 4000-w ac units. Features include a Briggs & Stratton air-cooled gasoline engine, pull starter, protective carrying frame, vibration absorbing mounts, and handy receptacles. Wheel dollies and housing are optional. A new longer-life 1800-rpm series is also available in sizes from 750 w up and with electric, remote, or demand starting, and automatic transfer arrangements. • **Katolight Corp.**, Box 891, Mankato, Minn.

For more details circle NED-468 H1 on enclosed inquiry slip

DRAWING TABLE-DESK board adjusts to any angle, height

Affording a complete working unit for engineers, designers, and draftsmen, this Coordinate group is a combination drawing table and reference desk. Pedals



give full control from a seated position of board height from 30 to 45 in. and angle from 0 to 90 degrees. The drawing surface is nonglare Lino-Draft which is washable, resilient, and self-sealing. One side of the L-shaped unit is a desk with a color-harmonized plastic top and large, shallow tool and desk drawers featuring nylon suspension and rubber bumpers. Modern tubular legs have floor levellers, handles are brushed chrome, and there are three convenient electrical outlets. • **Stacor Equipment Co.**, 285 Emmet St., Newark 5, N. J.

For more details circle NED-469 H1 on enclosed inquiry slip

AIR-OPERATED SUMP PUMP not damaged if run in dry sump

Easily carried by one man and operated by low volume of air supplied by a small portable compressor, the compact Size 225 sump pump will handle clear or dirty water, oil, sewage, or light sludge. It is 16¼ in. high including air strainer, and will pass through a 7½ x 9⅜-in. opening. Rated water delivery at 90 psi ranges from 197 gpm at 10-ft head to 68 gpm with an 80-ft head. Pump is powered by a governed Multi-Van air motor and cannot be damaged if sump is pumped dry. Pressurized grease reservoir in the housing provides automatic and constant lubrication to water seals. • **Ingersoll-Rand Co.**, Phillipsburg, N. J.

For more details circle NED-470 H1 on enclosed inquiry slip

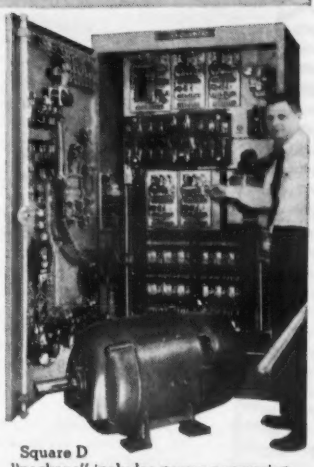
There's a Square D "package" for ANY Adjustable-Speed Job

ELECTRONIC drives use more static elements, less tubes. Fail-safe circuits prevent motor runaways. Available from 1/20 HP through 40 HP.

STATIC POWER magnetic amplifier drives produce top reliability, save floor space and weight. Available through 400 HP.

MOTOR-GENERATOR drives use static regulators and rectifiers for simplified maintenance. Available through 400 HP.

CUSTOM drives can be designed as required, with accuracies within fractions of 1%.



Square D "package" includes power conversion unit, operator's station, drive motor

Write for Adjustable-Speed Bulletin SM-280. Square D Company, 4041 North Richards Street, Milwaukee 12, Wisconsin

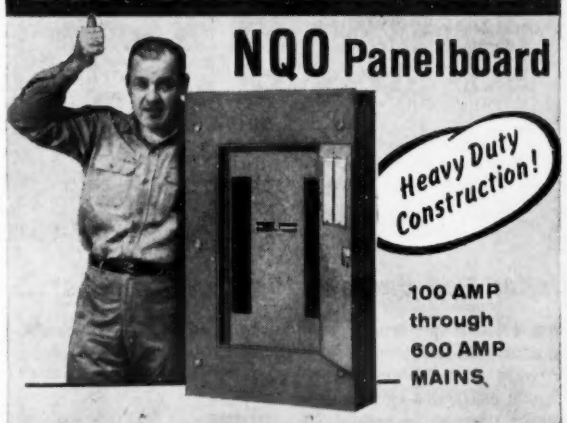
SQUARE D COMPANY
wherever electricity is distributed and controlled

For more details circle NED-471 H1 on enclosed inquiry slip

Same PANELBOARD COMBINES Both Lighting and Power Loads

SAVE—SPACE · TIME · MONEY

NQO Panelboard



Heavy Duty Construction!

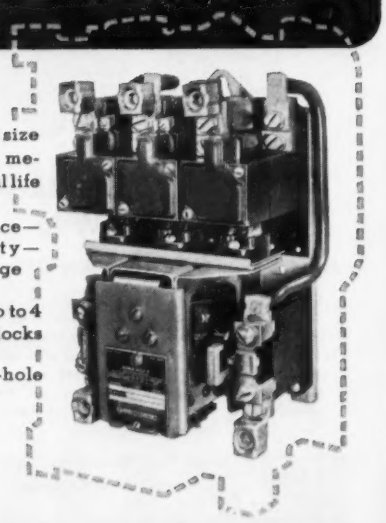
100 AMP through 600 AMP MAINS

Write for the complete story. Address Square D Company, 1601 Mercer Road, Lexington, Kentucky

SQUARE D COMPANY
wherever electricity is distributed and controlled

For more details circle NED-472 H1 on enclosed inquiry slip

New SIZE 4 STARTER is 33% smaller!



- Greatly reduced size with no sacrifice in mechanical or electrical life
- Easy maintenance—full accessibility—quick contact change
- Room for up to 4 double-circuit interlocks
- Simplified 3-hole mounting

Write for details. Square D Company, 4041 North Richards Street, Milwaukee 12, Wisconsin

SQUARE D COMPANY
wherever electricity is distributed and controlled

For more details circle NED-473 H1 on enclosed inquiry slip

Identify Quality and Beauty with Swenson Namettes®

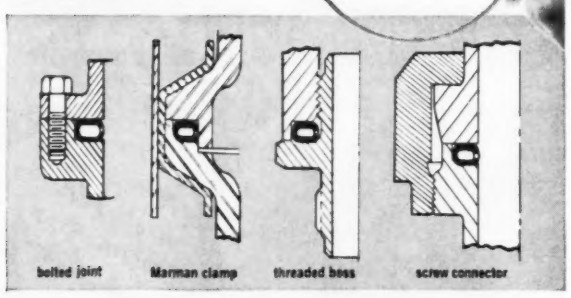
Any name is adaptable for plastics Namettes manufacture. Molded in distinctive styles to meet individual requirements . . . available in all colors or bright metallic finishes that won't dent, chip-off or corrode . . . their streamlined designs and luxurious looks add beauty and quality to harmonize perfectly with ultra-modern products. Low cost Namettes are easily attached and mounted to any surface or material . . . widely used by leading radio, television, electronic and appliance manufacturers, and in allied industries. For the final, customized touch to fine equipment, use Namettes — the ultimate in decorative identification!

Submit trademark, name or rough design for quotation. **Write for literature.** Call Swenson for custom molded plastics services no other company can match.

V. H. Swenson co., inc.
Engineering in Plastics
554 Elm Street, Kearny, New Jersey

For more details circle NED-474 H1 on enclosed inquiry slip

PRESSURE-TIGHT JOINTS 10^{-6} mm Hg-100,000 psi



United Self-Energized Metallic O-Rings*...

form positive, permanent, non-corrosive, static seals under pressure extremes from 10^{-6} mm Hg to 100,000 psi (or the ultimate compression stress of the metal itself) and temperatures from −452° to 3000° F. Available in various metals and coatings (including Teflon** and silver) ¼" O.D. to any size and configuration. United also makes non-vented and pressure-filled O-rings.

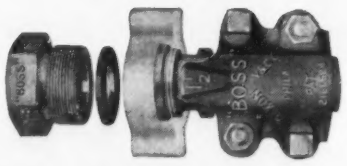
United Metallic "O" Rings, manufactured by United Aircraft Products, Inc., Box 1035, Dayton, Ohio.

See United Metallic O-Ring Catalog in Sweet's Product Design File or write for Free Handbook

*Patents 2,809,269; 2,837,360
**DuPont registered trademark

For more details circle NED-475 H1 on enclosed inquiry slip

"BOSS"



WASHER TYPE FEMALE COUPLING STYLE W-16

More Widely Used Than Any Other of Its Kind!

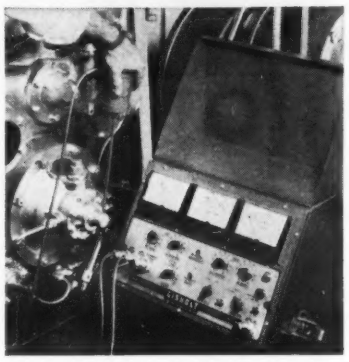
For strong, leakproof connections on hose for every service—steam, air, gas, water, oil, butane, hydraulics—high or low pressure. Furnished with super-strong "Boss" Offset and Interlocking Clamps. All parts (except washer) steel or malleable iron, rustproofed. Deep corrugations on stem smoothly rounded to prevent damage to hose tubes. Sizes ¼" to 6", inclusive.

From Your Hose Supplier or Industrial Distributor

DIXON *Valve & Coupling Co.*
GENERAL OFFICES & FACTORY—PHILADELPHIA 22, PA. BRANCHES—CHICAGO
BIRMINGHAM • LOS ANGELES • HOUSTON • DIXON VALVE & COUPLING CO., LTD. TORONTO

For more details circle NED-476 H1 on enclosed inquiry slip

PORTABLE BALANCER
for maintenance operations on amplitudes down to 0.000025 in.



This Masterline portable balancer provides direct, usable answers to a variety of vibration and balancing problems occurring in rotating members of assemblies or permanent installations. It is designed for maintenance and not production balancing operations. Unit can be used for periodic balancing of installed rotating equipment, to locate causes and isolate vibrations in structures, and to monitor certain facilities.

Four different amplifier and control unit combinations are offered. The simplest consists of a vibration amplitude indicator and filter for monitoring use. Next is a vibration amplitude indicator, filter, angle or phase meter, and a tachometer for single plane checking and correcting. The third has the amplitude indicator, filter, plane separation networks, and calibration controls for two-plane operations. Illustrated unit has angle, amount, and tachometer meters; a filter control; left and right plane separation networks and controls; an angle-phasing switch; and a selector switch. Five filter arrangements cover a range of 300 to 150,000 cpm.

Driven, inertia, stroboscopic, photocell, and proximity pickups are available. Amplitudes as small as 0.000025 in. can be measured, located, and corrected. Starting price is $1740. • **Gisholt Machine Co.,** 1245 E. Washington Ave., Madison 10, Wis.

For more details circle NED-477 H1 on enclosed inquiry slip

TIME DELAY RELAY
switches up to 5-amp loads

Totally enclosed snap-action contacts built into the Type B hydraulic-magnetic time delay relay are free from environmental contamination and unauthorized tampering. Its continuous duty coil can remain locked-in indefinitely, enabling the relay to function as a delay device and a load relay. It will switch loads up to 5 amp, either single-pole double-throw or double-pole double-throw. Sixteen ratings from ¼ to 120 sec and voltages from 6 to 240 v ac and 4 to 120 v dc are available in the 2.1 x 1.8 x 2.1-in. relay. Weight is 3.5 oz. • **Heinemann Electric Co.,** 356 Magnetic Dr., Trenton 2, N. J.

For more details circle NED-478 H1 on enclosed inquiry slip

INDUSTRIAL RETAINING RING PRICES REDUCED UP TO 51%

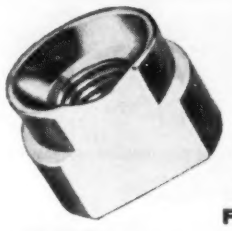
Series 1000, Series 3000 and Series 3100 Industrial Retaining Ring prices—in quantities up to 100,000—have been greatly reduced.

Thanks to modern, efficient production methods you can now get these Industrial Retaining Rings—either pre-stacked or bulk packed—at new, low prices . . . and pay less for pre-stacked rings than you have been paying for bulk packed. Reductions apply to standard materials and finishes.

Send for your new, revised IRR Price List—61N.

IRR *Originators of modern retaining ring dispensing*
INDUSTRIAL RETAINING RING COMPANY
57 Cordier Street, Irvington 11, New Jersey

For more details circle NED-479 H1 on enclosed inquiry slip



DECKER CLINCH NUTS
COLD-FORMED

Manufactured in a broad range of sizes to meet and speed every type of assembly operation. They are faster, easier to install . . . accurate and dependable. Cold-heading process affords extra-strong neck for clinching attachment. Double flat or plated clinch nuts are available.

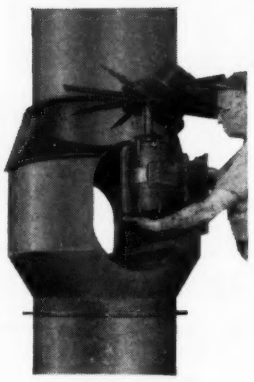
Whether you use cold-headed Pipe Plugs, Weld Nuts, Machine Screws, Lag Bolts, Hex Nuts, Wing Nuts, Washers or special fasteners, Decker fasteners will add new efficiencies and economies to your manufacturing operations.

Write or phone . . . for sample fasteners as well as your copy of Decker's complete new catalog.

DECKER NUT
MANUFACTURING CORPORATION
1900 N. Clark Road, Albion, Michigan

For more details circle NED-480 H1 on enclosed inquiry slip

new induced draft fan cuts maintenance costs



Simple removal of patented cone section permits motor and fan assembly of Induced Draft DE BOTHEZAT BIFURCATOR to slide out on rails* for quick, easy inspection. BIFURCATOR housing, originally installed like a section of the stack or breeching, remains in place. Insulated twin ducts carry fumes around motor, permitting economies of direct drive with motor operating in clean, cool air. Motor speed controllers adjust draft to boiler requirements. Fan wheels 12" to 36". Send for literature. Address Dept. NED-861.

*Optional Extra. Patents Pending.

De Bothezat®
DE BOTHEZAT FANS DIVISION OF
American Machine and Metals, Inc.
EAST MOLINE, ILLINOIS
Divisions of American Machine and Metals, Inc.
TROY LAUNDRY MACHINERY • RIEHLE TESTING MACHINES • DE BOTHEZAT FANS • TOLHURST CENTRIFUGALS • FILTRATION ENGINEERS • FILTRATION FABRICS • NIAGARA FILTERS • UNITED STATES GAUGE • AUTOBAR AUTOMATIC DEVICES • LAMB ELECTRIC COMPANY • HUNTER SPRING COMPANY • GLASER-STEERS CORPORATION

For more details circle NED-481 H1 on enclosed inquiry slip

UTICA

a revolutionary new wire stripper from

UTICA

Strip fast and clean! Eliminate nicking! Reduce insulation marking! Handle any wire size from #12 to #26 . . . and do it all with Stripwright®. . . Utica's revolutionary new wire stripper. There's never been anything like it. A lightweight, versatile, pistol-grip tool engineered for ease of handling in limited access areas and designed to the same quality standards as all other Utica tools. Write for complete information.

Utica Drop Forge & Tool Division, Kelsey-Hayes Company, Utica 4, N. Y.

For more details circle NED-482 H1 on enclosed inquiry slip

LOCATE HOLES to .001"

up to ten times faster than on a surface plate

No reference standards are required with the Sheffield-Ferranti machine for measuring and laying out location of holes and surfaces to X & Y coordinates. Part tolerances of .001 and larger are indicated to the nearest .0005 with direct visual readout in lighted ¾" numbers. Instant zero reset—working range 15" x 24". Save time by rushing request for Bulletin FI-22.

The **SHEFFIELD** *Corporation Dayton 1, Ohio*

a subsidiary of The Bendix Corporation

For more details circle NED-483 H1 on enclosed inquiry slip

new! from ETC

LARGE

WIRE SIZE

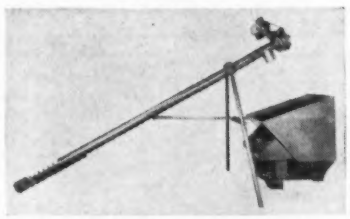
TERMINALS AND CONNECTORS

Largest selection in the industry of shapes, dimensions and stud sizes for use on the larger wire sizes (#8—#2 AWG). Stud sizes from #6 through ¾". Made of .050" to .075" annealed pure E.T.P. copper and tin-plated. VERSAKRIMP* barrel style—silver-brazed seam. Immediate shipment. Write for literature, samples, prices. *Trade Mark

ETC INCORPORATED
990 East 67th Street, Cleveland 3, Ohio

For more details circle NED-484 H1 on enclosed inquiry slip

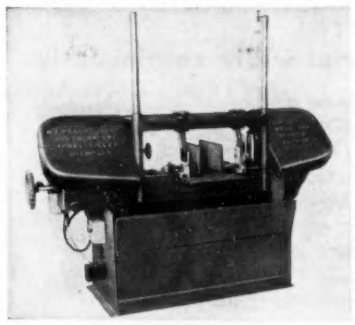
SCREW TYPE HOPPER FILLER
conveys material up steep incline



Constantly increasing pitch of the Progressive Pitch conveyor screw built into hopper filler prevents packing of material being handled and moves the material forward at an increasingly higher speed with minimum power requirements. Lower end of the hopper filler is in the bin beneath the bulk material to be conveyed up a steep incline to the hopper or other receiver. Operating controls can be included to start and stop the unit at predetermined low and high points in the hopper. • **Worley Equipment, Inc.**, 2301 N. Knox Ave., Chicago 39, Ill.

For more details circle NED-486 H1 on enclosed inquiry slip

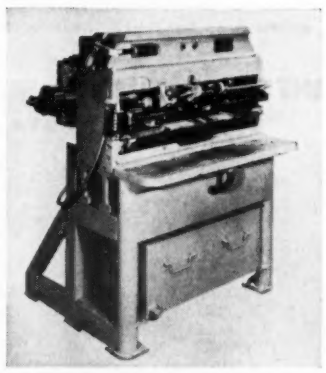
METAL-CUTTING BAND SAWS
two sizes have variable speed drive



Improved automatic valve on two horizontal metal-cutting band saws will raise the cutting head to any preset height at the completion of a cut. An automatic cycle is easily set up on the machines so that operator is only required to move the work while the saw recycles. Both the Model W-9 with a 9 x 18-in. capacity and Model F-14 with 14 x 18-in. capacity have infinitely variable speed drives from 60 to 300 fpm for cutting all materials. • **W. F. Wells & Sons, Inc.**, North on Old U. S. 131, Three Rivers, Mich.

For more details circle NED-487 H1 on enclosed inquiry slip

SHAFT KNURLING MACHINE
takes ⅝-in. diameter shafts



Straight spline-type knurls up to 4 in. long are produced by this Model 101 shaft knurling machine at any longitudinal location on up to 20-in. long and up to ⅝-in. diameter shafts. The workpiece is rolled between two precision flat knurl blocks, with the upper block fixed and the lower block driving. It is powered by a 5-hp 220/440 v three-phase ac motor. • **Morley Machinery Co.**, 3111 Winton Rd. S., Rochester 23, N. Y.

For more details circle NED-488 H1 on enclosed inquiry slip

RUGGED, RELIABLE, LOW PRICE R&M HOIST

R&M's low-price Type J Hoists are designed for rugged, reliable duty. R&M motor has 30 min., 55°C. time-rise rating. Magnetic disc-type motor brake, Weston-type load brake, upper and lower limit switches provide safety. Triple-reduction gearing is made of heat-treated alloy steel . . . ball bearings throughout are oil bath lubricated or lifetime sealed. Push button magnetic controls operate on reduced voltage. High-strength aluminum alloy frame. Capacities of ¼, ½, 1 and 2 ton. Push, hand-geared or motorized trolley. Write for Bulletin 905-NE

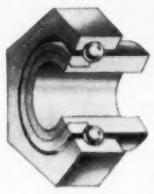
take it up with

ROBBINS & MYERS, INC.
SPRINGFIELD / OHIO, U.S.A.

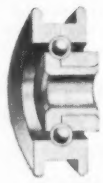
For more details circle NED-489 H1 on enclosed inquiry slip

KILIAN

UNGROUND BALL BEARINGS *offer you—*

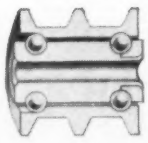


QUALITY—For more than 40 years Kilian Unground Ball Bearings have been the highest quality and the most accurate unground ball bearings obtainable.



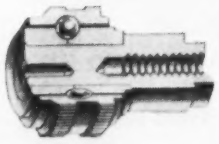
ECONOMY—Inexpensive Kilian Unground Ball Bearings are the perfect answer where precision is not required, where loads are light and speeds are under 2500 r.p.m.

SUPERIOR CONSTRUCTION—All component parts are machined from steel bars and are properly heat treated thus assuring greatest accuracy and an absolutely true running concentric bearing.



CUSTOM DESIGN—Shown here are just a few of the thousands of different bearings that have been designed and produced for America's leading industries. Because of our method of manufacture, we can offer you special bearings in quantities of 2500 or more.

CHOICE OF MATERIALS—In addition to carbon steel, we can furnish bearings made of bronze and stainless steel. NEOPRENE and NYLON tired outer races are available where quiet operation is desired.



CHOICE OF FINISH—For corrosion resistance as well as appearance, various types of finishes are available such as zinc, cadmium, dulite, nickel and chrome.

KILIAN
MANUFACTURING CORP.
SYRACUSE, N. Y., U.S.A.
CATALOG ON REQUEST
Distributed throughout United States and foreign countries.

For more details circle NED-490 H1 on enclosed inquiry slip

Amazing NEW
Rust Removal Discovery
REMOVES RUST IN 2 SIMPLE STEPS
without acids

just DIP then RINSE

Here's why hundreds of leading plants are using
TURCO ALKALINE RUST REMOVER

Eliminates 6 of the steps required by conventional rust & paint removal processes.

Metallurgically safe... No dimensional loss... No acid embrittlement. Safer and easier to handle. Eliminates hazards commonly encountered with acids. Contains no cyanide compounds.

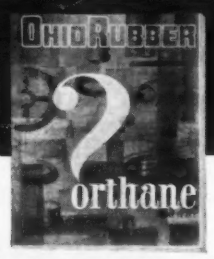
Write for FREE BROCHURE!
Discloses the full story on rust removal without acids! Reveals scores of applications that may save you money.

TURCO PRODUCTS, INC.
CHEMICAL PROCESSING COMPOUNDS
24600 South Main Street, Wilmington, California
Factories: Chicago, Houston, Los Angeles, London, Rotterdam, Sydney, Mexico City, Paris, Montreal, Hamburg, Naha (Okinawa)
Manufactured in Canada by B. W. Deane & Co., Montreal
OFFICES IN ALL PRINCIPAL CITIES

For more details circle NED-485 H1 on enclosed inquiry slip

OHIO RUBBER

Free! New Design Data



FULL ORCO STORY — Materials, compounding, formulating, forms & shapes, metal adhesion, engineering tips and application ideas. Form No. 730

ORTHANE® INFORMATION — Physical properties, applications, durometer & chemical resistance data of OHIO RUBBER polyurethanes explained in detail. Form No. "Orthane"

COMPLETE DETAILS — Types, sizes, application data, design information on ORCO's new full line of tires, wheels, & grips. Form No. 714-A

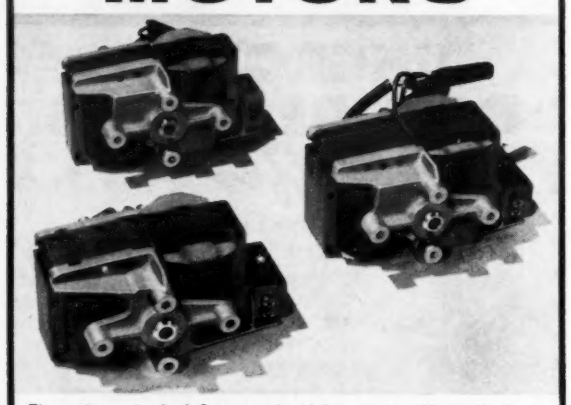
Factories:
Long Beach, Calif.
Fort Smith, Ark.
Willoughby, Ohio
Conneautville, Pa.
Stratford, Conn.

G-62

ORCO THE OHIO RUBBER COMPANY
WILLOUGHBY, OHIO
A DIVISION OF THE EAGLE-PICHER COMPANY

▲ For more details circle NED-492 H1 on enclosed inquiry slip ▲

ELECTRIC VIBRATORY MOTORS



These three standard Syncro units deliver up to ¼" amplitude at 14,400 strokes per minute. They're rated at 4, 3 and 2 amps full load at 115 vac. All feature a multiple torsion bar pivot bearing with no wear surfaces. Their sophisticated, trouble-free design has gained wide acceptance on sanders, saws, polishers, coin sorters, slicers—even peanut butter spreaders. Why not test them on your vibrating power problem?

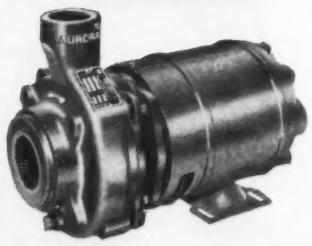
SYNCRO CORPORATION
OXFORD, MICHIGAN

▲ For more details circle NED-493 H1 on enclosed inquiry slip ▲

CUT PUMP COSTS

BY USING AURORA®

CENTRI-PAC PUMPS



WIDE VARIETY OF PACKAGED SIZES

Capacities to 400 GPM • Heads to 150 feet.

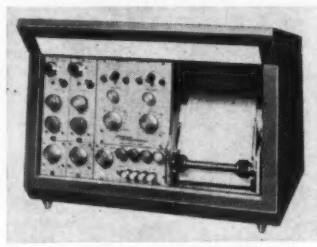
- **LOWER IN COST . . . packaged and stocked for off-the-shelf delivery.**
- **HIGH EFFICIENCY . . . LOW HORSEPOWER . . . less initial cost . . . reduced operating expense.**
- **BRONZE FITTED CONSTRUCTION . . . with mechanical seals, drip-proof NEMA motor, stainless steel shaft, and cast bronze impeller keyed and locked in position.**
- **SMOOTH, QUIET OPERATION.**

Write for Bulletin 117 PKG.

AURORA Always PUMPS — **AURORA PUMP** DIVISION
THE NEW YORK AIR BRAKE COMPANY
1180 LOUCKS ST. • AURORA, ILLINOIS
LOCAL DISTRIBUTOR IS LISTED IN THE YELLOW PAGES OF YOUR PHONE BOOK

▲ For more details circle NED-494 H1 on enclosed inquiry slip ▲

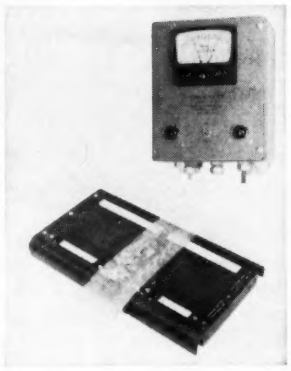
TWO-CHANNEL RECORDER
for portable, table, or rack use



Pushbutton paper speed selector on Type RS Dynograph two-channel recorder affords choice of 1, 5, 25, and 125-mm per second paper speeds. Remote paper speed control is available. Used with Offner 461 preamplifiers, it provides differential input with sensitivities up to 1 mu v per millimeter; without preamplification, sensitivity is 1 mu v per millimeter, single-ended. Up to 250 v common mode dc signal input may be applied. Rectilinear heat or electric and curvilinear ink or electric recording media may be employed, with conversion taking a few minutes. Paper width is 5¼ in. Dynograph may be table or rack mounted, or carried for portable use. • **Offner Electronics Inc.**, 3900 River Rd., Schiller Park, Ill.

▲ For more details circle NED-495 H1 on enclosed inquiry slip ▲

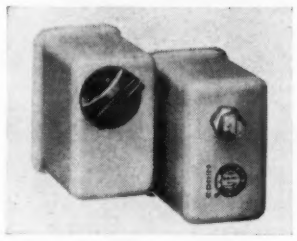
WEB WIDTH METER
shows material width continuously



Continuous and automatic width measurement of web materials, textile, paper and plastic film is made by the Margin Meter as the material moves over the measuring unit. Consisting of the measuring unit and indicator, the 115-v ac device is insensitive to side-slip. It is ready to operate after setting an edge allowance dial and two tolerance pointers. If material width should exceed either high or low tolerance setting, operator is alerted by a flashing red light or audible alarm. A continuous width recorder is optional with the system. • **Matrix Controls Co.**, Box 22, Somerville, N. J.

▲ For more details circle NED-496 H1 on enclosed inquiry slip ▲

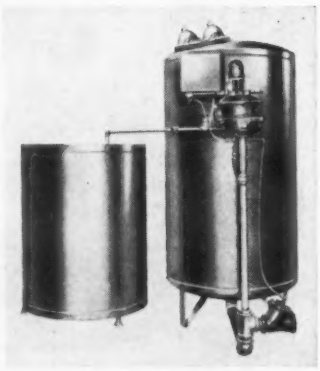
INTERVAL TIMERS
eight models have adjustable ranges



Control contacts of Electro-Time electronic interval timers are rated for 115-v ac, 5-amp noninductive load and operate with 5-w power consumption. Eight adjustable models cover a range of 0.5 sec to 5 min. Timing interval is adjusted by a control knob or slotted shaft with locknut. Several control circuit connections are possible. Timers for direct current and for as low as 28 v may be provided. • **Electro-Seal Corp.**, 938 North Ave., Des Plaines, Ill.

▲ For more details circle NED-497 H1 on enclosed inquiry slip ▲

WATER SOFTENERS
two sizes are automatic or manual



Single High Capacity Commercial manual and automatic water softeners are available with capacities from 200,000 to 900,000 grains and maximum flow rates from 40 to 150 gpm. Twin units, with two mineral tanks, have double capacities and flow rates. Brine tank is hot dip galvanized inside and out and has a bitumastic lined interior. Control valve has self-cleaning seats and automatic backwash control. The automatic model can be pushbutton or time clock initiated. Second Junior Commercial Series has the same manual and automatic features as the High Capacity units, but its steel brine tank has a Plastisol lined interior. Single units have 90,000 to 150,000-grain capacities and 18 to 30-gpm flow rates. Twin units double these figures. • **Modern Water Equipment Co.**, 230 E. Main St., Freeport, Ill.

▲ For more details circle NED-498 H1 on enclosed inquiry slip ▲

...more caster for your money

Series "68" caster with side brake

"DIAMOND-ARROW"

Here's a *top-quality*, but economical, ball-bearing-swivel caster with side brake.

It's the Bassick Series "68." Bassick's unique "Diamond-Arrow" swivel construction features a two-level ball race . . . more economical because one ball-race does the work of two . . . smoother, more effective swiveling because more than 60% of the bearings are under load at all times.

Inexpensive side brakes, available on casters with 3", 4" and 5" wheels, engage or disengage quickly and easily at the touch of a hand or toe. (Also available without brakes in a variety of wheel types and diameters.) Hard or soft tread wheels.

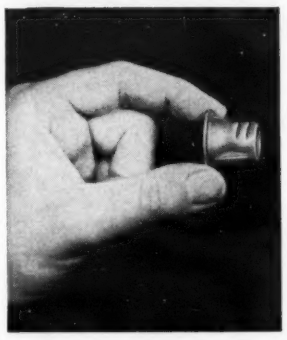
Ask your Bassick distributor or write us for complete information on these outstanding Bassick casters. 1.19

THE BASSICK COMPANY
BRIDGEPORT 5, CONN.
IN CANADA:
BELLEVILLE, ONT.

Symbol of Excellence SW — Bassick — A DIVISION OF STEWART-WARNER CORPORATION

▲ For more details circle NED-499 H1 on enclosed inquiry slip ▲

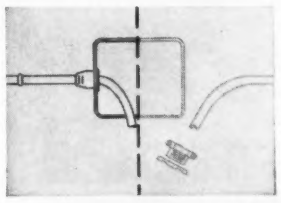
BUCHANAN pres-SURE Romex Connectors . . EASIEST, FASTEST TO USE



Just One Piece To Handle. Insert the pres-SURE Romex connector in the knockout, hold firmly against inside of box, give initial crimp with electricians' pliers, then complete crimp with 2 hand-squeeze. No screws, lock nuts or clamps.

One Man Completes Job First Time Around. Only pres-SURE Romex connectors can be inserted in boxes after wires have been run through knockouts. One journeyman can pull wires, install connectors, cut wires to proper lengths, staple wires close to boxes. No wasted wire, no time lost.

More Wiring Room Too—this connector extends less than 3/64" into the box. Insulation abrasion is minimized. Permanently tight, vibration-proof connections are assured. No parts to work loose; can't rust. Write for bulletin J-8.



Listed for 14/2, 14/3, 12/2, 12/3, and 10/2 non-metallic sheathed cable. Catalog No. 1050—An exclusive Buchanan product (U. S. Patent 2527227). ⅜" trade size fits standard ½ knockouts.

BUCHANAN — BUCHANAN ELECTRICAL PRODUCTS CORPORATION
HILLSIDE, NEW JERSEY
In Canada: ESNA CANADA LIMITED, Toronto 16

▲ For more details circle NED-500 H1 on enclosed inquiry slip ▲

WATLOW'S

FIREROD

Outheats . . . outlasts . . . outperforms ***any other*** *cartridge heater!*

OUTHEATS—Up to 8-times the heat or same heat in ⅛ the space.

OUTLASTS—Better heat transfer gives higher operating temperatures with fewer burnouts.

OUTPERFORMS—Proven superior by lab and field tests.

Write for Bulletin 367.

WATLOW
ELECTRIC MANUFACTURING CO.
1374 Ferguson Ave.
St. Louis 14, Mo.

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CONCO OVERHEAD CRANES

IN CAPACITIES TO 150 TONS

CONCO SEMI-GANTRY CRANE custom-engineered for service in a Chicago area steel mill

For Information Request Bulletin 5000B

Material Handling Division
Conco Engineering Works, Inc.
Mendota, Illinois

SPARTAN TOOL DIVISION, Powered Sewer Cleaning Equipment • FIELD CONTROL DIVISION, Barometric Draft Controls • CONCO BUILDING PRODUCTS, INC., Brick, Tile, Stone • CHICAGO TRAMRAIL DIVISION, "Trak-Rak" Stacker Cranes, Monorail Systems, "Fas-Lok" Storage Racks.

For more details circle NED-502 H1 on enclosed inquiry slip

666. Jomac work glove. Reversible—any two make a pair. Men's knitwrist.

It's GLOVEMANSHIP that makes JOMACS your best buy in industrial work gloves

GLOVEMANSHIP is an art. It involves combining the ideal yarns, processing the cloth by techniques which will impart the wearing and protective qualities desired, creating patterns, styling cuffs and, finally, producing the finished gloves with real craftsmanship. Jomac practices GLOVEMANSHIP.

What does GLOVEMANSHIP mean to you? It means lower glove costs with quality gloves that afford maximum dexterity, more comfort; that resist oils, greases and stains; that protect hands and forearms against such hazards as cuts, burns, bruises and abrasions; that can be washed time after time.

For better fit, greater dexterity, more comfort, longer wear, and maximum safety in handling most chemicals, oils, greases, etc.—specify North PVC Coated Gloves.

To keep workers dry and comfortable in foul weather and to give them superior protection against chemicals, oils and greases—specify North PVC Protective Clothing.

WRITE FOR MORE INFORMATION ABOUT JOMAC INDUSTRIAL WORK GLOVES TODAY

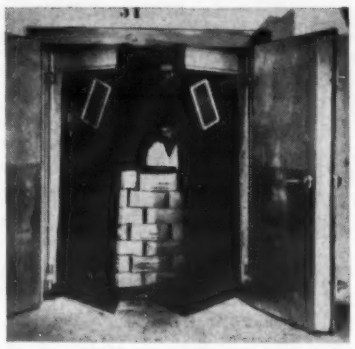
JOMAC Jomac Inc., Dept. G Philadelphia 38, Pa.

In Canada: James North Canada Company Ltd., Simcoe, Ont.

"JOMAC Sells Quality . . . and Quality Sells JOMAC!"

For more details circle NED-503 H1 on enclosed inquiry slip

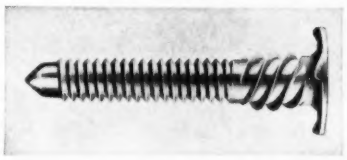
FLEXIBLE RUBBER DOORS
self-closing type has windows



Tough, duck-reinforced rubber, heavy duty frame, and hardware used in these flexible, self-closing doors withstand the impact of industrial trucks and other vehicles with no damage to doors, vehicles, merchandise, or personnel. Clearance space at top and sides is closed with 1/16-in. thick, flexible rubber air seals. Self-returning cam hinge, eye-level 14 x 7½-in. windows of ¼-in. shatterproof Plexiglas, and choice of double-acting adjustable compression springs or single-acting torsion springs are included. Options include magnet closure, wide angle hinges, hold open device, and striker plates. Single or double door installations are possible. • **W. B. McGuire Engineering Co.**, Box 265, Champlain, N. Y.

For more details circle NED-504 H1 on enclosed inquiry slip

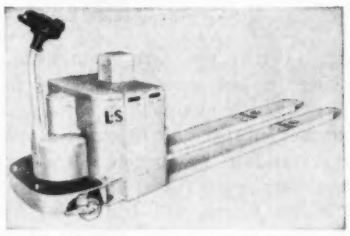
MOUNTING SCREWS
in wafer and flat head designs



Need for countersinking to obtain flush mountings is eliminated with use of line of mounting screws in wafer and flat head designs for mounting electrical and other equipment. Fasteners have multiple thread left-hand retaining sections and torque increasing "nibs" under the head to prevent stripping in the panel, and they eliminate need for retaining nuts. Nut locating and orienting point brings nut into mating position with the thread. Flat head screws are suitable for plywood ⅜ in. thick and up and range in length from 1¼ to 1¾ in. Wafer head units are used with plywood, Masonite, or composition board of 3/16 in. or thicker and are suitable for use with punched holes. Lengths range from ¾ to 1 3/16 in. • **Illinois Tool Works**, Shakeproof Div., St. Charles Road, Elgin, Ill.

For more details circle NED-505 H1 on enclosed inquiry slip

TWO-PALLET TRUCK
handles 48 x 40-in. 4000-lb loads

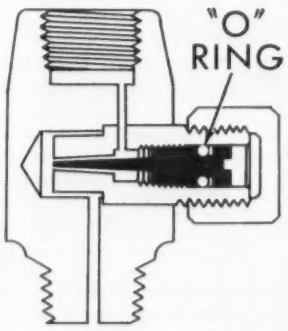


This rider type walkie truck is designed for handling two 2000-lb capacity pallets, each 48 in. long and 40 in. wide. Speed ranges to 6.5 mph, and truck is powered by a 12-v over-drive or a 12-24-v electric system. For stand-up operation, all controls are on the hand steady rest over the battery compartment. For sit-down operation, foot controls for over-drive are mounted on the riding type stabilizing bumper. • **Lewis-Shepard Products Inc.**, Dept. R11-26, 125 Walnut St., Watertown 72, Mass.

For more details circle NED-506 H1 on enclosed inquiry slip

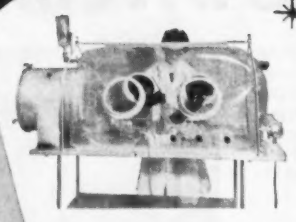
PULSATION DAMPENERS
reduce flutter in pressure gages

Pulsation and flutter are reduced in pressure gages by this pulsation dampener, designed for pumps, compressors, and similar air, gas, or liquid-handling equipment operating within 10,000-psi pressures. Dampener guards against excessive wear or destruction of gage mechanisms and maintains calibration accuracy. Device utilizes a variable orifice which permits full pressure measurement, but prevents surge or shocks by throttling abrupt pressure changes of large or small amplitude. Variable orifice can be externally adjusted without line or gage disconnection. O-ring protects against leakage. Units are offered in ¼ and ½-in. sizes. • **Kunkle Valve Co.**, 121 S. Clinton St., Ft. Wayne, Ind.



For more details circle NED-507 H1 on enclosed inquiry slip

This is the PERFECT "Dust-free" Laboratory



*AMSCO Flexible Film Laboratory Dry Box

This low-cost, transparent "self-contained laboratory" is designed for laboratory or production procedures demanding a controlled, isolated atmosphere . . . whether it be dust-free, moisture-free, toxic compound confining, inert gas atmosphere . . . an almost endless list.

Amsco's disposable Flexible Film Dry Box is ideal for delicate transistor and diode assembly, experimental metallurgy, missile sub-assembly work, instrument assembly . . . even Alpha radiation studies.

The canopy collapses into a compact package for storage. Following certain radiation studies, it may be disposed of easily . . . economically. Chamber is 48" long x 26" wide x 28" high and has four "working" ports, interchange lock for parts and several ducts for service lines. Optional air filtration system.

Write for bulletin IC-607.

World's largest designer and manufacturer of Sterilizers, Surgical Tables, Lights and related technical equipment for hospitals, industry, research

SCIENTIFIC AND INDUSTRIAL DEPARTMENT
AMERICAN STERILIZER
ERIE • PENNSYLVANIA

For more details circle NED-508 H1 on enclosed inquiry slip

Alnor® DEW-POINTER

the best way to make a fast, accurate determination of the dew point of gas atmospheres.

- Check the carbon potential in heat treating furnaces almost instantly at any time during the process.
- Registers the dew point in air used for drying operations.
- Simple to operate, fast, precise

Complete information in Dewpointer bulletin No. 2051

ALNOR INSTRUMENT CO.
Division of
Illinois Testing Laboratories, Inc.
Rm. 529, 420 N. LaSalle St., Chicago 10, Ill.

For more details circle NED-509 H1 on enclosed inquiry slip

JUSTRITE SAFETY CANS

better because they're stronger!

Only Justrite Safety Cans . . . the standard of industry . . . have all these "strong" points that increase service and satisfaction: Malleable iron spout—a Justrite exclusive . . . double seams folded *and* locked—(see illustration above) . . . bodies ribbed for extra strength—on side, on top, on bottom . . . full 15-pound lead coating on 24 gauge sheet steel. Even if a Justrite Safety Can is completely enveloped in flames, the seams remain tight until fire evaporates the contents. And, the Justrite 3-way operating handle which pulls back for pouring is a real "back-saver." Write today for name of nearest distributor and illustrated descriptive catalog. Justrite . . . the world's standard of safety since 1906.

JUSTRITE MANUFACTURING COMPANY 2061 N. Southport Ave. Chicago 14, Illinois

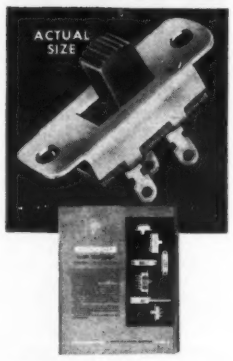
For more details circle NED-510 H1 on enclosed inquiry slip

6 AMP.

U. L. RATED

Slide Switch

Truly inexpensive . . . only 1⅜"l by 17/32"w . . . new Stackpole Type SS-36-1 handles a full 6-amps at 125 volts ac. Use it on appliances, power tools, instruments — wherever a heavy-duty SPDT or SPST switch is called for. 9 attractive trigger knob colors to match your styling needs.



The Most Complete Line

Dependable, low-cost Stackpole Slide Switches are made in over 15 basic types—0.5-6 amp ratings, 1-4 positions, 1-3 poles, maintained or momentary contact, pushbutton-operated, etc. Printed wiring terminals, shields, colored triggers optional.

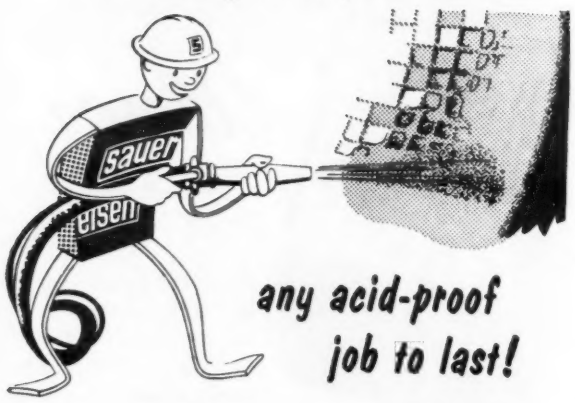
NEW! SLIDE SWITCH BULLETIN contains details on the complete Stackpole line. Write today!

STACKPOLE

Electronic Components Division STACKPOLE CARBON COMPANY, St. Marys, Pa.

For more details circle NED-511 H1 on enclosed inquiry slip

You can gunite, pour or cast



any acid-proof job to last!

Yes, Sauereisen Pour-Lay Cement No. 54, the **Acid-Proof Concrete,** is ready to go to work for you, too . . . for floors, tanks, chimneys. Provides resistance to all corrosive acids (except hydrofluoric) and temperatures as high as 2000°F. Can be gunited, poured, cast in forms or applied as a topping over concrete, brick or tile. Ask for Data Sheets. **Sauereisen Cements Co., Pittsburgh 15, Pa.**

SAUEREISEN POUR-LAY CEMENT **No. 54**
Patent Applied For

For more details circle NED-512 H1 on enclosed inquiry slip

Newest, greatest advance in finishing!

RAMPE VI-BRADER®

CONTROLLED ORBITAL FINISHING MACHINE®

- **Speed** is faster than any similar finisher known.
- **Permits** rapid stock removal, or precise surface finishing, at selectable speed.
- **Handles** any size load up to 1¼ cu. ft.

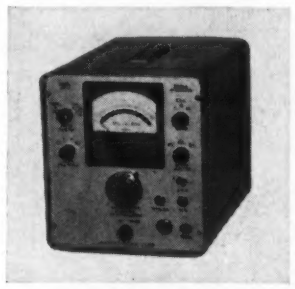
Think how many ways you can do a better, faster job with this revolutionary vibratory-type finisher! Unique **controlled orbit** performs delicate finishing work impossible with any other type machine. Variable speed drive 950 to 1800 rpm. Uses Rampe R-1 or R-2 Rollabrader barrels, or conventional ⅝, ¾ or 1¼ cu. ft. tubs.

For complete details, write today. ®Rampe Mfg. Co.

RAMPE MFG. CO.
14915 WOODWORTH AVE., CLEVELAND 10, OHIO

For more details circle NED-513 H1 on enclosed inquiry slip

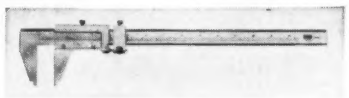
VIBRATION METERS
usable with any accelerometer



Simultaneous readout of acceleration, displacement, and velocity is possible on each channel of the Dial-A-Gain three-channel, double integrating vibration meter. Any piezoelectric accelerometer can be used to obtain the readings. Device has three channels with meters, rack mounted with a common power supply. Logarithmic meter scale provides equal accuracy at any scale reading. One of the 610 Series, the three-channel vibration meter (not shown) augments a line which also includes Model 610M, case mounted with meter (shown); Model 610, without meter; Model 610RM, rack mounted with integral meter; Model 610R, rack mounted without meter for use with external meters; and Model 611R3, with galvanometer preamplifier and three-channel rack. • **Unholtz-Dickie Corp.,** 2994 Whitney Ave., Hamden 18, Conn.

For more details circle NED-514 H1 on enclosed inquiry slip

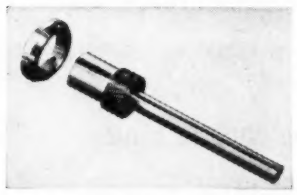
VERNIER CALIPER
measures English or metric scale



Recessed, dark, and clear cut graduations on this imported 12-in. vernier caliper are easily read without guesswork. Finish is luster chrome. The 2¼-in. long jaws are hardened, ground, and precision lapped. Maximum nib width with jaws closed is 0.300 in. Caliper will measure to 0.001 in. English scale or 0.02 mm metric scale. Graduations for outside measurement appear on one side and for direct inside measurement on the other side. • **Scherr-Tumico, Inc.,** 301 Armstrong Blvd. N., St. James, Minn.

For more details circle NED-515 H1 on enclosed inquiry slip

BEARING RETAINER NUT
made of standard and special alloys

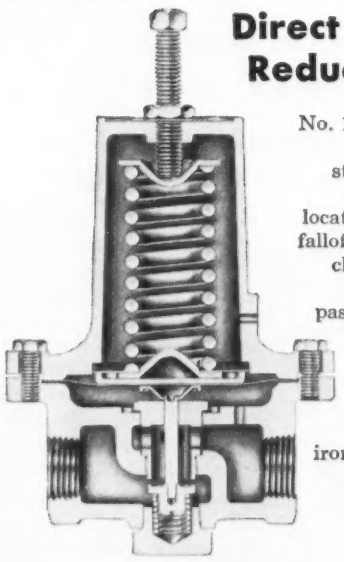


Tight metal-to-metal engagement that creates a permanent locking and adjusting force is realized with the Nylok bearing retainer nut. It is suited for any shaft application where a nut holds a bearing. When the nut is engaged, a nylon pellet embedded in the threaded area of the nut exerts a strong cross thrust against the shaft threads. An infinite number of preload settings is possible. Available in any standard or special alloy and in all thread sizes, the nuts may be removed and reused repeatedly. • Nylok Corp., 611 Industrial Ave., Paramus, N. J.

For more details circle NED-516 H1 on enclosed inquiry slip

For Accurate Control of Steam Pressures

Direct Operated Reducing Valve



No. 17-1 Direct Operated Reducing Valve, for steam service, features accurately sized and located ports to minimize falloff; isolated diaphragm chamber for maximum stability; large body passages; lapped seating surfaces for tight shutoff. (No. 17-22 with soft seats for air service, also available.) Made of iron in sizes ½", ¾", 1". Reduced pressure ranges 2-12; 8-50; 25-150 psi.

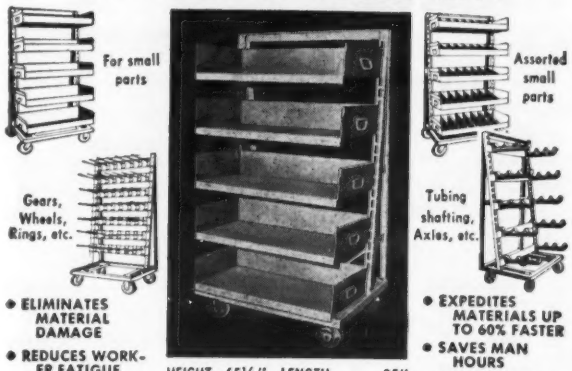
Ask Your Mason-Neilan Industrial Distributor. He is ready to serve you and to ship promptly from stock. Ask for catalog or write direct.

MASON-NEILAN
Division of Worthington Corporation
MN1-19
69 NAHATAN ST., NORWOOD, MASS.

For more details circle NED-517 H1 on enclosed inquiry slip

THE VER-T-RACK

THE ACME OF VERSATILITY



- ELIMINATES MATERIAL DAMAGE
- REDUCES WORKER FATIGUE
- MAXIMUM EFFICIENCY AT MINIMUM COST

HEIGHT—65½" LENGTH — 35"
WIDTH— 24" CAPACITY 2000 lbs.

- EXPEDITES MATERIALS UP TO 60% FASTER
- SAVES MAN HOURS
- SAVES FLOOR SPACE
- GREATER SAFETY FACTOR

Equipped with 6" roller bearing steel wheel casters

VER-T-RACK can be handled with lift truck. Trays are adjustable on **VER-T-RACK**

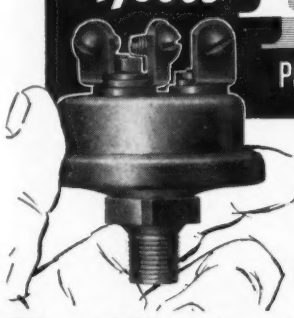
PRICE — $49.50 Varied Accessories Extra

Slightly higher west of the Rockies Write today for descriptive literature

THE Vince BASNIK COMPANY
MATERIAL HANDLING DIVISION
• 2020 CENTER STREET • CLEVELAND 13, OHIO

For more details circle NED-518 H1 on enclosed inquiry slip

Hobbs DUAL CIRCUIT PRESSURE SWITCHES



Add a NEW DIMENSION to Pressure Activation!

DOUBLE DUTY! Disconnects one electrical circuit while placing the other in operation. Industry-approved for a wide range of applications in dual circuit activation of various types of instruments, warning signals, safety devices, fuel pumps — in many other ways for making and breaking circuits. Ideal for locking out a starting motor while the engine is running. Can be used with oil or air . . . or with standpipe, almost any liquid or gas.

- Non-ferrous pressure chamber
- Phosphor-bronze diaphragm
- Alloy contacts
- Preset at factory

Available in pound setting specifications in both circuits within ranges of 3-6, 7-14 and 15-60 psi. Compact — only 1-11/16" diameter. Pressure assembled and pretested at 150 psi. Designed for use on direct current.

A COMPLETE LINE OF PRESSURE SWITCHES

Also available — a wide selection of single circuit pressure switches. Built by the manufacturers of Hobbs Running Time Meters and Shock-Mounted Head Lights. Distributors in principal cities . . . WRITE FOR CATALOG PS605.

Symbol of SW Excellence

John W. Hobbs Corporation
A DIVISION OF STEWART-WARNER CORPORATION
2076 YALE BLVD., SPRINGFIELD, ILLINOIS

For more details circle NED-519 H1 on enclosed inquiry slip

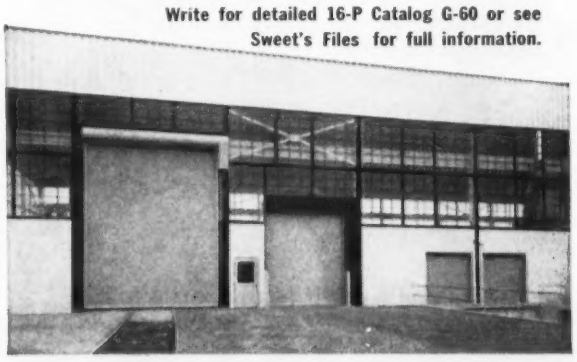
Mahon rolling steel doors

SAVE SPACE
SAVE SERVICE
SAVE COSTS

in sizes and types to fit your application

Rolling Steel Doors are the proven and best way of closing any type opening. For a plant, distribution center or loading dock—in new or remodeled facilities—Mahon has the right Door for the job. Rugged, easy operating, Bonderized (and synthetic baked enamel protected) Steel Doors, power or manually operated, will give you long, trouble-free service. If damaged, they are completely repairable by an experienced Mahon crew . . . service contracts available.

Write for detailed 16-P Catalog G-60 or see Sweet's Files for full information.



MAHON

THE R. C. MAHON COMPANY • DETROIT 34, MICHIGAN
Manufacturing Plants—Detroit, Mich. and Los Angeles, Calif.
Sales Offices or Representatives Located in All Principal Cities

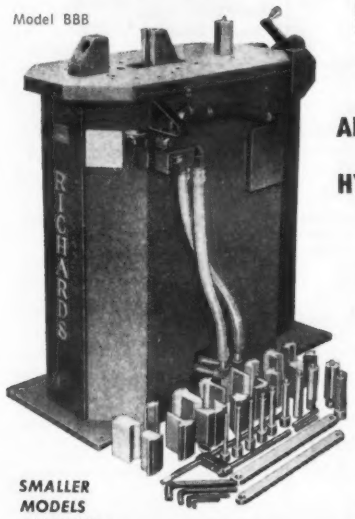
For more details circle NED-520 H1 on enclosed inquiry slip

Multiform

BIG BROTHER BENDER

Illustrated above are a few of the many forms that can be produced efficiently on the Multiform Bender.

Model BBB



SMALLER MODELS AVAILABLE

AIR OPERATED MODELS IN FOUR SIZES HYDRAULIC—3 MODELS

The heavy duty Big Brother Bender is designed for fabricating bus bars, brackets, fixtures, etc., without special tooling. Air controlled with finger tip response. Comes complete with dies, mandrels and wrenches—punching and blanking dies extra. Will punch holes up to 1" and form material up to 1/4" thick by 4" wide. We also build smaller models, hand or air operated, for bending materials up to 1/8" x 1 1/2".

Send for illustrated folder M6

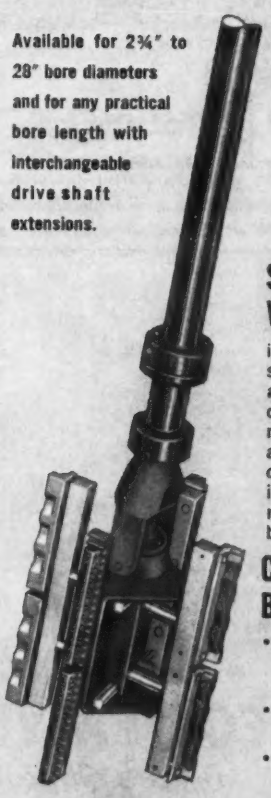
J. A. RICHARDS CO. Myrtle & Pitcher Sts. Kalamazoo, Mich.

▲ For more details circle NED-521 H1 on enclosed inquiry slip ▲

NEW SUNNEN CYLINDER HONES

PERMIT "stone feed-out" without interrupting honing operations

Available for 2¾" to 28" bore diameters and for any practical bore length with interchangeable drive shaft extensions.



THE IDEAL HONING TOOL FOR...

- Cylinders and long bores
- Bores in large, bulky parts
- Small lot or odd lot production
- Maintenance or repair of equipment

STONE FEED-OUT WHEEL...

is conveniently located so operator can make adjustments quickly. Stone cutting pressure can be maintained or increased at anytime during honing operations . . . without interrupting stroke or rotation, regardless of bore length.

CHECK THESE BENEFITS...

- Eliminates time lost in stopping to make feed-out adjustments
- Removes stock faster in any material
- Produces geometrically accurate bores within .0005"
- Generates any desired surface finish
- Does not require costly set-up time
- Powered by portable drill, drill press, air motor, lathe, etc.
- Can be used vertically, horizontally or at any angle

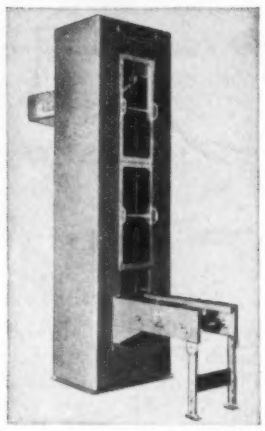
Ask for free bulletin 9383

SUNNEN HONING
SUNNEN PRODUCTS COMPANY

7933 Manchester Ave. • St. Louis 17, Mo. • Canadian Factory: Chatham, Ont.

▲ For more details circle NED-522 H1 on enclosed inquiry slip ▲

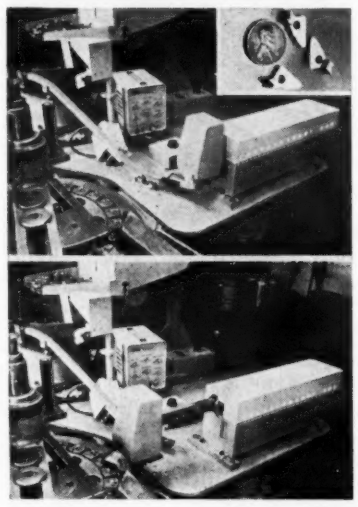
VERTICAL CONVEYOR for single or multistory uses



Verti-Matic continuous self-loading and unloading conveyor permits unattended vertical movement of case goods which individually enter the unit and rest on chain-mounted flights. Cases are gently conveyed either up or down at speeds from 14 to 30 per minute. An integral infeed conveyor allows any number of cases to be accumulated before entry. Designed for either single or multistory operations, the conveyor can be integrated into existing conveyor systems, designed into new systems or used with FMC Custom Pak conveyor systems. • **Food Machinery & Chemical Corp.**, Materials Handling Systems, Box 552, Riverside 13, Calif.

▲ For more details circle NED-523 H1 on enclosed inquiry slip ▲

ASSEMBLY LINE ROBOT commanded by own electronic brain to perform many varied operations

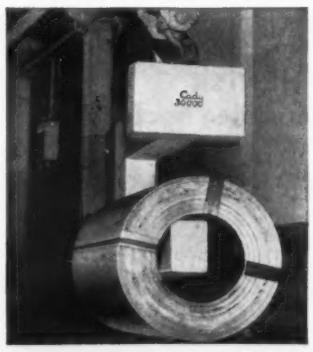


Programming of many and varied functions in assembly and related operations is possible by changing accessories on the general purpose TransfeRobot 200 automation machine. The standard, off-the-shelf unit consists of an arm and an actuator which can be fitted with many types of fingers and jaws, all under the control of a self-contained electronic brain. Accessory jaws, positioning heads and feeders, and simple cam adjustments contribute to its versatility. Fingers are used to seize, move, position, and relinquish the workpiece; an accessory swivel gives the machine a "wrist" action.

The electronic brain not only commands the TransfeRobot 200 to perform its own tasks, but also orders other machines (including other TransfeRobots) to act. If the "brain" detects a malfunction in the work program, the machine stops and a supervisor is notified through flashing lights or buzzers. • **U. S. Industries, Inc.**, USI Robodyne Div., 8411 Second Ave., Silver Spring, Md.

▲ For more details circle NED-524 H1 on enclosed inquiry slip ▲

How Cady Coil Lifters Cut Your Coil Handling Costs . . .



Cady Coil Lifters for use with cranes and hoists now make it easy to load, unload, stack, carry and spot coiled stock. Save time at loading docks, storage areas, shearing and slitting departments and press rooms. Box section, high strength alloy steel provides strong rigid lifters with minimum tare weight to handle heavy coils with existing cranes without overloading. Counterbalanced to hang level when picking up coils . . . no moving parts . . . low first cost . . . no maintenance cost. Standard sizes up to 40,000 lb. capacity for coil widths up to 72 inches. Write for Catalog L-460 and name of distributor.

Also a complete line of Pallet and Pipe Lifters

CADY Metal Fabricating Inc.

84 Schenck St. Phone NX2-4145 N. Tonawanda, N. Y.

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"C" Clamps 1" to 18" Openings 1" to 16" Depths

Bar Clamps 2' to 12' Opening

Spring Clamps—3 Sizes
Clamping Pressure 4 lbs. to 80 lbs.

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Prevents Mushrooming

for Greater Safety

for Longer Life

HARGRAVE Masonry Drills for Hand, Power Hammers, Electric Drills 3/16" to 6" Dia.

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1995 Waverly Ave., Cincinnati 12, O.

STOCKED BY YOUR LOCAL SUPPLIER

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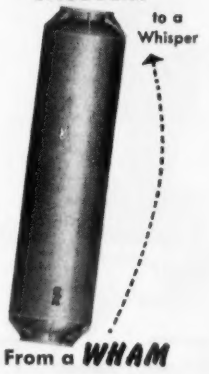
from Air, Steam and other gas discharges with BURGESS-MANNING SNUBBERS



Stop that noise and profit through better neighbor and employee relations. Avoid compensation claims.

Burgess-Manning Snubbers are engineered to effectively correct your specific noise problem. There is no obligation for recommendations. Send us a description of your problem.

From a WHAM

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The Sound-Engineering People 9227 Sovereign Row, Dallas 7, Texas
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Custom-built by DEWALT, Inc., A Black & Decker SUBSIDIARY

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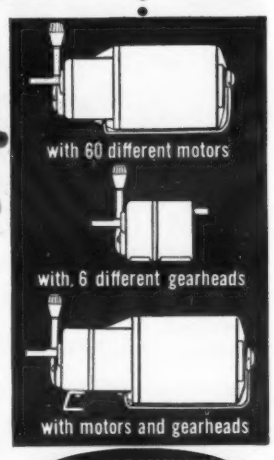
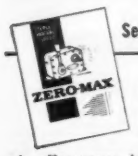
how VERSATILE can VARIABLE SPEED be?

ZERO-MAX offers 6 basic fhp models



- TORQUE RATINGS —3 to 450 in. lbs.
- SPEED RANGES—0-80 to 1200-0-1200 R.P.M.
- Lever, screw or vernier control
- 6 different shaft arrangements



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The ZERO-MAX® Company
2855 Harriet Ave. So.
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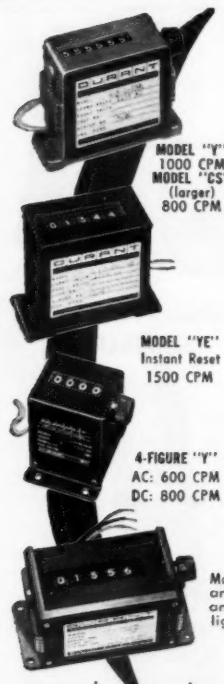

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Electric Counters

MODEL "Y" 1000 CPM
MODEL "CS" (larger) 800 CPM

MODEL "YE" Instant Reset 1500 CPM

4-FIGURE "Y" AC: 600 CPM DC: 800 CPM

COMPLETE LINE for HIGH SPEED, ACCURATE ELECTRIC COUNTING in INDUSTRIAL PLANTS

There's a DURANT electrically-actuated COUNTER designed just for your needs. Dependable, easy to read, easy to install on individual production equipment, or as original equipment on your new product. Get accurate counts at high, low, or intermediate speeds.

Durant Counters will give trouble-free service for many years, even under the most severe operating conditions.

PANEL MOUNT

Mounting plate with knurled reset knob or tumbler lock reset — can be set in panel from front. Ideal for remote control.

Model SP-MF PREDETERMINED. May be pre-set to any number; when desired figure reached, an electric signal stops a machine, lights a light, or sets off an alarm. 600 CPM.

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DURANT MANUFACTURING COMPANY

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NEW from Metron

A LIGHT BUT RUGGED HAND TACHOMETER

Here are the features you asked for in Metron's new TRIPLETACH:

CONSTANT ACCURACY— ± 1% full scale
THREE RANGES—changed with a flick of the switch
FOOL-PROOF READINGS—only the scale in use is visible
COMPACT SIZE—3½"x5⅝"x2½"; fits your toolbox
LIGHTWEIGHT—only 24 oz.
HANDY CASE—carry all accessories with you
VERSATILE—reads directly: shaft speeds in RPM; belt speeds in ft./min. or in./min.
ONE ROTATING PART—ball bearing-mounted; permanently lubricated.
Send today for Bulletin 103A and ordering information. Delivery: one week.

Metron METRON INSTRUMENT CO.
432 Lincoln • Denver 3, Colo. • PE 3-3764
TWX: DN 194

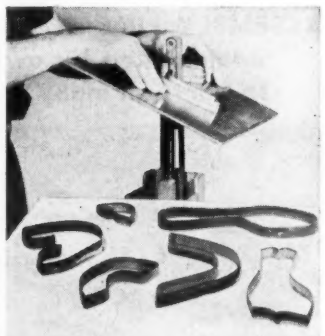
For more details circle NED-532 H1 on enclosed inquiry slip

THREE-WAY SOLENOID VALVE for 500-psi air or hydraulic use

Compactness and simplicity contribute to the low cost versatility of this Type BM-300 brass miniature three-way solenoid valve. It will handle differential pressures from 0 to 200 psi or up to 500 psi for special applications in hydraulic or pneumatic service. Available are normally-closed, normally-open, directional, and free-venting versions. Valve has a 1 3/16-in. diameter and ⅞-in. deep brass body. Five body orifice diameters are 3/64, 1/16, 3/32, ⅛, and 5/32 in. Ports are ⅛-in. NPT. Coils are available for 6 to 440-v ac and 6 to 220-v dc. • **Allied Control Co.**, 2 East End Ave., New York 21, N. Y.

For more details circle NED-533 H1 on enclosed inquiry slip

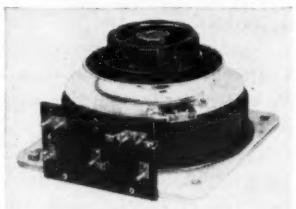
ABRASIVE BELT MACHINE uses 1 x 90-in. abrasive belt



Flexible action of the belt slack suits this low cost abrasive belt machine for following contours when sharpening clicker dies. Setting its adjustable table to the proper angle produces the correct radius for a sharp cutting edge. Lowering the table accommodates different die heights. Flange mounted 1-hp, 3600-rpm totally enclosed, fan cooled motor is either single or three-phase. Switch that reverses the direction of the 1 x 90-in. abrasive belt is optional. • **Grinding & Polishing Machinery Corp.**, 2530 Winthrop Ave., Indianapolis 5, Ind.

For more details circle NED-534 H1 on enclosed inquiry slip

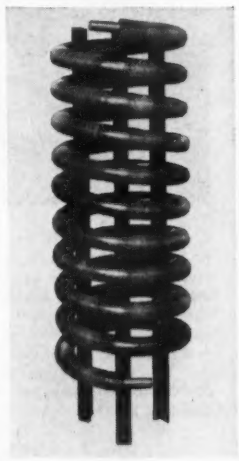
AUTOTRANSFORMER 30-w units added to line



Smooth, continuous, manual control of alternating current voltage from 0 to 17 per cent above input line voltage is provided by the Series W Variac autotransformer. Recent addition to line is the Type W30 in single and two or three-gang combinations, and available for either 120 or 240-v, 50 to 60-cycle operation. Uses include testing and development work, variable lighting, temperature regulation, motor speed control, and voltage adjustment in power supplies and aging racks. Basic uncased type for back-of-panel mounting and totally enclosed type for wall, bench, or panel mounting have flange type base to facilitate surface mounting and post type ganging. Adaptation to motor driven assemblies is possible. Prices are $75 and $97. • **General Radio Co.**, West Concord, Mass.

For more details circle NED-535 H1 on enclosed inquiry slip

VERTICAL TANK HEATER has 244-sq ft heating surface



One-inch IPS Schedule 40 steel pipe with helical aluminum K fins spaced six to the inch comprise the Type KV-244 vertical tank heater. Heavy duty ⅝-in. high by 0.03-in. thick fins locked into the pipe have 244 sq ft of heating surface. The continuous length is wound into a 19-in. diameter helix of 13 turns. Heater will pass through a standard API 20-in. manhole for installation in new or existing tanks either singly or in banks. Helix is supported on three steel channels for free thermal expansion. Design causes tank products adjacent to the heater to be heated first and rise, setting up a thermal circulation. • **Griscom-Russell Co.**, 185 Wetmore Ave., Massillon, Ohio.

For more details circle NED-536 H1 on enclosed inquiry slip

5 REASONS FOR SPECIFYING U. E. INDICATING TEMPERATURE CONTROLS

HIGH SENSITIVITY
on-off differentials from ± .5°F with excellent repeatability.

LOW COST
list prices from $35.00 with generous quantity discounts

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thermal assemblies quickly replaced in the field with no loss of calibration accuracy

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reliable liquid-filled measuring systems combined with simple service-proven components for accurate performance and long life

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many styles, ranges, sensing elements and switch characteristics permit hundreds of "custom-built" combinations

What is *your* requirement? Chances are one of our standard controls will satisfy your needs. If not, we'll put our 30 years' experience to work for you on special designs.

ALL PURPOSE —150° to +650°F
E32N

LOW COST (800 Series) —150° to +650°F
HIGH TEMPERATURE (900 Series) 0° to +1000°F
E36N

For the USUAL or UNUSUAL application, United Electric offers quality controls at economical prices.

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Type E45N illustrated is used on medical equipment.

Write TODAY for complete specifications and price information on U. E. Indicating Temperature Controls. Attention Dept. W.

UE UNITED ELECTRIC CONTROLS CO.
85 School Street
Watertown 72, Massachusetts

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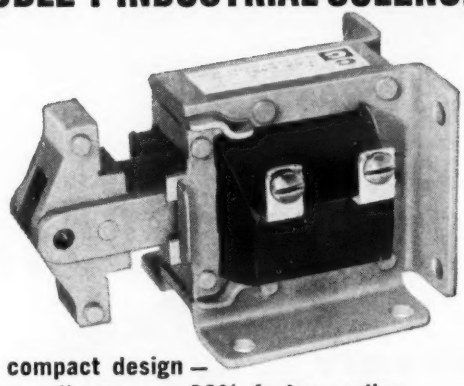
DOUBLE T INDUSTRIAL SOLENOID



NEW compact design — greater pull-power . . . 20% faster cycling

First time on the market — Controls Company's 831 series *industrial solenoid.* A new design with greater performance than some solenoids twice the size. Check these features:

- Double T plunger design gives more-level pull characteristics without power drop-off
- Frame and core protection by epoxy paint
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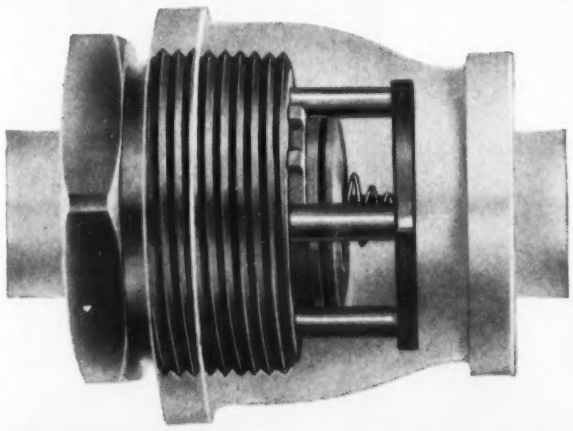

SIMPLE CHECK VALVE
efficient anywhere . . . in any position

The DURABLA *Basic-Check*® Unit is the simplest, most convenient check valve available. Any standard pipe fitting will serve as the valve body. Low in cost, too, since all you buy are the working parts.

These valves operate lightly . . . can be installed anywhere . . . in any position. This permits use without changes in existing lines, or costly "positioning" in new installations.

Get the full story of these valves. Ask for bulletin NED 81.

DM-44

DURABLA® DURABLA MANUFACTURING COMPANY
114 Liberty Street, New York 6, New York
U.S. Pat. No. 2,649,277

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DRILLUNIT *Solves* Drilling Problems

Flexible-Dependable

Self contained —Compact,—can be mounted in any position or angle, in a small area.

Single or Multiple spindle applications, can be adapted for Drilling, Reaming, Chamfering, Boring, Counter Boring and Spot Facing.

Stroke and feed variations obtainable without changes in the unit.—Step feed drilling possible with slight modification.

9" and 12" stroke —up to 5 H.P.

Standard Models Available from Stock

Write for literature.

DRILLUNIT, INC.
HYDRAULIC DRILL UNITS
3267 Wight Street • Detroit 7, Michigan

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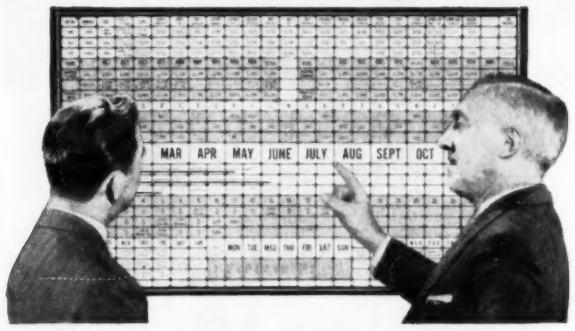
How To Get Things Done



BOARDMASTER VISUAL CONTROL

Gives you a Graphic Picture of your operations, spot-lighted in color. You See what is happening at a glance. Facts at eye level—saves you time, prevents errors.

Simple, flexible—easily adapted to your needs. Easy to operate. Type or write on interchangeable cards, snap in grooves. Ideal for production, scheduling, sales, traffic, inventory, etc. Made of metal. Compact, attractive.

Full price $49.50 with cards

FREE 24-Page Illustrated Booklet N-300 Mailed Without Obligation

GRAPHIC SYSTEMS, Yanceyville, North Carolina

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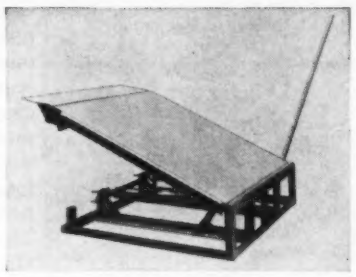
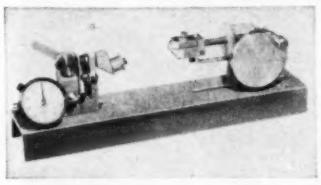
AUTOMATIC DOCKBOARD preassembled in range of sizes



Docks which receive trucks at all hours and cannot be attended to at once can be effectively serviced with the Herco SM dockboard. The preassembled unit is available in a range of sizes and lends itself to most dock installations. It automatically maintains contact with bed of truck during loading and unloading and locks in cross traffic position when nose is folded down and out of use. Assembled unit can easily be dropped into place with a fork truck. • **Karl A. Herman Co.**, 412 Fuller Ave. N. E., Grand Rapids 5, Mich.

For more details circle NED-543 H1 on enclosed inquiry slip

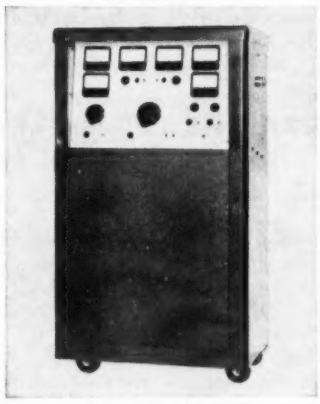
COMPACT TENSILE TESTER in 50 and 100-lb load capacities



Compact and easily carried, this portable tensile tester is available with 50 and 100-lb load capacities. It will provide accurate tensile strength data on small gage wire, rope, string, spot weld coupons, and textiles. Minimum test specimen length is ½ in., maximum is 8 in. The indicator needle locks at top load and has pushbutton release. • **Detroit Testing Machine Co.**, 9390 Grinnell Ave., Detroit 13, Mich.

For more details circle NED-544 H1 on enclosed inquiry slip

ELECTRON BEAM POWER SUPPLY for welding, cutting, vacuum melting



Output of the knob-controlled Model A2632 electron beam power supply is 6 kw. It is equipped with filament transformer and grid bias to control current flow in the electron gun. Designed for electron beam welding, cutting, vacuum melting, and the purification of metals, it has five 4½-in. meters for filament supply volts and amps, kilovolts and milliamperes for bias, and focus of the electron gun. Pilot lights, reset, and on-off controls are also housed in the caster-equipped 21⅜ x 33 x 59⅜-in. metal cabinet. Input is 208 v, three-phase, 30 amp. • **Del Electronics Corp.**, 521 Homestead Ave., Mt. Vernon, N. Y.

For more details circle NED-545 H1 on enclosed inquiry slip

Make ANY Fork Lift Truck an automatic drum-handler in seconds!

the Barrelifter

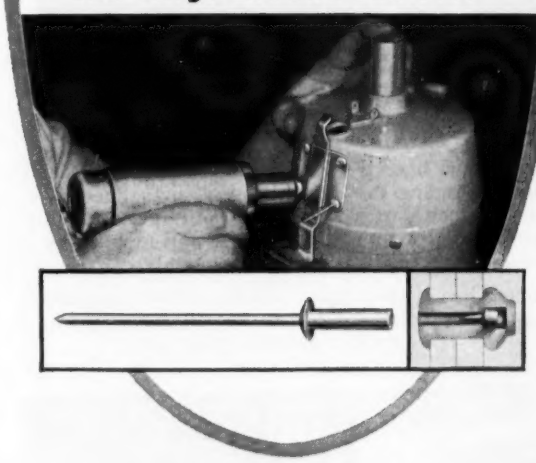
Low Cost
Easy to Install
Simple to Operate

The Barrelifter is an exceptionally rugged, lightweight attachment for all fork-lift trucks; costs only a third of competitive lift attachments. Installed or removed in seconds. Handles most sizes of drums, barrels, buckets, kegs, cans, and pails made of metal, wood or fiber, covered and uncovered. Only two moving parts; nothing to lubricate, or wear out. Completely automatic. Can move and stack thousands of units a day. Quickly pays for itself in time and labor saved. Four models available for immediate delivery: Model BL-PIN, $79.50; Model BL-CAM, $89.50; Model BL-Mast, $124.50; Model BL-TWO, $134.50. Dealer and Distributor inquiries invited.

PRODUCT OF Ironrite INC., MT. CLEMENS, MICHIGAN

For more details circle NED-546 H1 on enclosed inquiry slip

ONE OF THE ONE DOZEN REASONS WHY UNITED "POP"® RIVETS run rings around the rest



THE RIGHT BLIND RIVET FOR ALL YOUR NEEDS

For example, the application shown above (blind-riveting holding plates to the tanks of Regina Electrikmops) call for a fastener combining watertightness with fast, economical setting. Ideal for the job is the exclusive "POP" **Closed-End** Rivet that seals as it sets and is gas and liquid tight. Preferred for general use, the "POP" **Open-End** Rivet provides a partial (but not pressure tight) seal. United also offers special "POP" Rivets such as Large Flange type for joining plywood and Long Mandrel type for mounting Fiberglas insulation.

SEE FOR YOURSELF . . . how United (and **only** United) offers the right blind rivet to do all your jobs faster, better! Send for one of these "POP" Rivet Introductory Kits today, containing a hand tool and a selection of rivets, together with application data. $19.95 prepaid. Or, better still, see your local "POP" Rivet Distributor.

UNITED "POP" RIVETS

FASTENER DIVISION
United Shoe Machinery Corp.
1828 River Road
SHELTON, CONNECTICUT
U.S.A.

For more details circle NED-547 H1 on enclosed inquiry slip

GORMAN-RUPP *SIX·SIXTY* PUMPS

Simple, dependable, highly versatile units for use in your product assemblies or plant

The unique and highly efficient Six-Sixty line of single-stage centrifugal pumps includes six models: ranging from ½ to 2 hp, from 1" to 2" in pipe sizes, and from 40 to 175 gpm in capacity against a typical total head of 35 ft.

Design Features: integral pump and motor construction, minimum maintenance and upkeep. The unit can be mounted horizontally, vertically, at an angle or on the side. Discharge port can be turned in any one of four positions, 90° apart.

Applications: Gorman-Rupp Six-Sixty pumps are ideal for use as integral units in equipment for washing, cleaning, blending, water conditioning, etc. . . . for cold water circulating systems in factories, warehouses, etc. . . . for water supply or booster service, etc. Other Gorman-Rupp regular or self-priming centrifugals for every industrial need. *Write for information.*

THE GORMAN-RUPP COMPANY
305 BOWMAN STREET MANSFIELD, OHIO
GORMAN-RUPP OF CANADA LTD. ST. THOMAS, ONT.

3112

For more details circle NED-542 H1 on enclosed inquiry slip

"Slickest visual control..."

states *Factory* magazine. Entries made directly with marking pencil on a rolling "Mylar" sleeve which *moves with time,* bringing deadlines constantly closer. Entries easily erased.

Send for **FREE GUIDE to Control Methods** with full-scale, sample chart section

Shows how Rol-a-chart controls 22 different items: orders, production, data processing, maintenance, dispatching, sales, etc. Also expert consultation service with no obligation.

Rol-a-chart Division

Wm. A. Steward Company, P. O. Box 291, Mill Valley, Calif.

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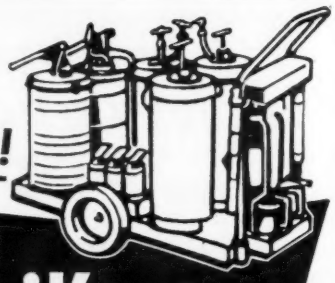
Complete lube shop on wheels!



ALEMITE lubriKart

This compact hand truck rolls lubricants, pumps, hand guns, tools right to the job! Saves steps, saves time—transports lubricants in clean, sealed containers. Alemite LubriKart moves anywhere inside or out. Rolls easily—even in narrow aisles, quickly and smoothly.

Alemite's line of general and specialized lube equipment permits you to select and build a LubriKart for your specific needs. Write for free illustrated data sheet.

Symbol of SW Excellence — ALEMITE DIVISION STEWART-WARNER CORPORATION

Dept. GG-81, 1850 Diversey Pkwy., Chicago 14, Ill.

For more details circle NED-549 H1 on enclosed inquiry slip

end switch replacement with **unconditionally guaranteed**

Levolier NO. 41 SWITCHES

The only switch that is unconditionally guaranteed against failure in lighting circuits. One piece phenolic case makes wiring easier, insures better insulation, 6 amp. "T" 125 V.—3 amp. 250 V.

Use 6 to 20 amp LEVOLIER switches for canopy, fixture and FHP motor use. Also toggle, push button and momentary contact type switches.

NO. 71 — Need a *thin* 6 amp. switch? The No. 71 is only 15/32" thick, 6 amp. "T" 125 V. 3 amp. 250 V.

Available from your electrical wholesaler

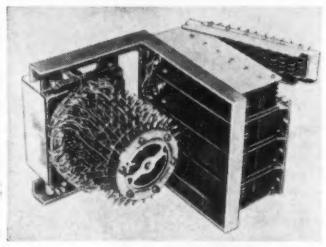
Send for McGILL Catalog No. 84.

engineered electrical products — McGILL® — precision needle roller bearings

McGILL MFG. CO. INC., Electrical Div., 151 N. Campbell St., Valparaiso, Ind.

For more details circle NED-550 H1 on enclosed inquiry slip

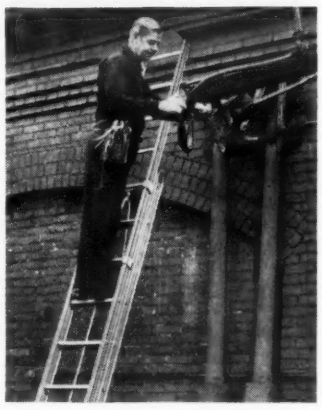
ROTARY STEPPING SWITCH
plug-in unit has 240 connections



Complete changes of preselected programs on control, selection, sequencing, or pulsing circuits are rapidly made with this rotary stepping switch, wired for plugging into connectors. It provides 240 individual connections. The 6 5/16 x 6 x 4 9/16-in. unit has bridging type wipers, with nonbridging type optional. Applications include programming, sequence control, routing, test equipment, impulse counters, memory devices, and tallying and counting. Single unit price is $125. • **North Electric Co.,** Electronetics Div., Galion, Ohio.

For more details circle NED-551 H1 on enclosed inquiry slip

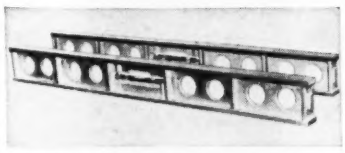
GLASS FIBER LADDERS
straight and extension types



Heavy duty glass fiber rails in an I-beam shape are combined with aluminum steps in this line of straight and extension safety ladders, suited for use where electrical insulation or corrosion protection are required. Oval-Lok rung-to-rail connection prevents the rungs from turning, pulling out, or collapsing. Ladders meet or exceed the ASA metal ladder code, and are equipped with rubber feet to insulate, prevent skidding, and protect floors. Offered in various lengths, they resist corrosion from moisture, chemicals, acids, and exhaust and gas fumes. • **Louisville Ladder Co.,** 1101 W. Oak St., Louisville 10, Ky.

For more details circle NED-552 H1 on enclosed inquiry slip

STRAIGHT EDGE & LEVEL
in aluminum and semisteel

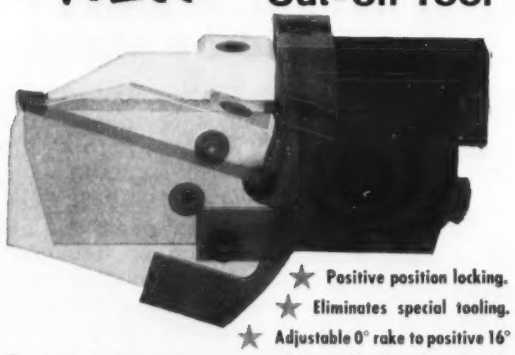


Both the level and accuracy of a machine bed can be checked simultaneously with this parallel straight edge which has a built-in level. Tool is also usable for other precision checking, inspection, set-up, maintenance, and production operations. The lightweight aluminum model has hardened wear-resistant surfaces, and the 6-ft unit only weighs 35 lb. Surfaces are ground flat and parallel to within 0.0005 in. over-all. • **Challenge Machinery Co.,** 1943 Thomas St., Grand Haven, Mich.

For more details circle NED-553 H1 on enclosed inquiry slip

Another P.D.Q. *FIRST!*

★NEW ADJUSTABLE RAKE *Manchester...* Cut-off Tool



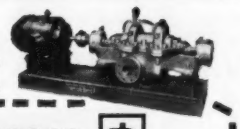
★ Positive position locking. ★ Eliminates special tooling. ★ Adjustable 0° rake to positive 16° ★ Re-setting without losing center location. ★ Eliminates grinding for proper rake angle. ★ Available for all makes of Turret Lathes, Engine Lathes, Automatics and Cut-off Machines.

This new "Manchester" tool can save special tooling costs and time costs in special tool grinding. The tool is infinitely adjustable to any setting from 0° rake to positive 16°. Cutting point is always at center height regardless of rake angle to insure correct cutting action. Complete facts are available, write for literature.

PDQ PORTAGE Double-Quick, Inc. 1043 SWEITZER AVENUE • AKRON 11, OHIO

For more details circle NED-554 H1 on enclosed inquiry slip

for the toughest pumping jobs choose IR general purpose pumps



RUGGED, HEAVY DUTY pumps ideally suited for paper mills, power plants, water plants, mines, general manufacturing or process work. Ingersoll-Rand Single-Stage and Two-Stage pumps have simplified horizontally split casings for complete accessibility of all internal parts without disturbing suction and discharge piping.

Sizes range to 400 hp with deliveries to 4000 gpm . . . heads to 1100 ft.

For performance and specification data write today for latest catalogs or see your local I-R representative or distributor.

92A-9

1860 – 1960 *A CENTURY OF PUMP PROGRESS from the leading Manufacturer*

Ingersoll-Rand 11 Broadway, New York 4, N. Y.

For more details circle NED-555 H1 on enclosed inquiry slip

THE **PROOF** IS IN THE **PERFORMANCE**

A COMPLETE "READY-TO-SPRAY" UNIT

The Spee-Flo HydraAirless ECONOMY 30 is not a **"junior size"** unit with limited performance capabilities, but a FULL-SIZE, HIGH-CAPACITY Airless spraying system which means TRUE ECONOMY for any operation.

ECONOMY FEATURES:
- ★ Low Initial Cost
- ★ Low Operating Cost
- ★ Quality Finishing With ALL Materials
- ★ Full Power and Volume . . . (Operates up to four guns efficiently — "loafs" on ordinary jobs!)

Remember, the cheapest is not always the most economical! All your spraying needs, present and future, can be handled by the ECONOMY 30. No need for additional units or replacement as spray requirements grow. Take 5 minutes to find out how the ECONOMY 30 will save for you! Write the Spee-Flo Company or see your nearest Spee-Flo distributor for complete information and demonstration.

The HydraAirless ECONOMY 30 is equipped with container cover, air regulator, material strainer, 25 foot Nylon hose assembly and the H-GUN with tungsten carbide spray tip.

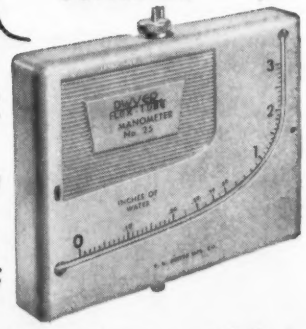
ONLY $695.00

The Spee-Flo Company 6614 Harrisburg, Houston 11, Texas.

For more details circle NED-556 H1 on enclosed inquiry slip

NEW Dwyer FLEX-TUBE Series 25

THE MANOMETER THAT
- *COSTS HALF as much*
- *Is only HALF as BIG*
- *IS ACCURATE to 3%*
- *Does 4 NEEDED JOBS*



and is practically indestructible!

Only 7⅜" wide, 5⅞" high and 1 3/32" deep. Housing and tube of tough Tenite II plastic. Logarithmic indicating tube for accurate and easy reading. Two ranges: 0-3" and 0-7". Gages (1) static pressure, (2) draft, (3) filter resistance and (4) velocity from 0-7000 fpm. (with pitot tube).

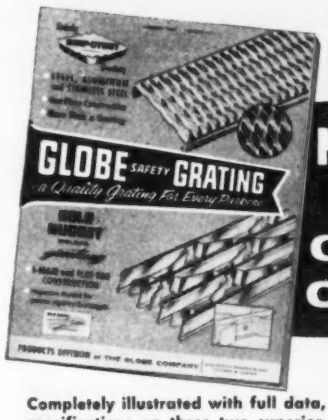
A complete "package." Unit includes all necessary connector tubing and fittings, mounting screws, fluid, instructions.

Write for informative catalog page

F. W. DWYER MFG. CO.

P. O. BOX 373-Q MICHIGAN CITY, INDIANA

For more details circle NED-557 H1 on enclosed inquiry slip



FREE!

New Globe SAFETY GRATING CATALOG

Completely illustrated with full data, load charts and specifications on these two superior open steel floor gratings:

★ SAFETY GRIP-STRUT GRATING

Of one piece construction in Steel, Aluminum and Stainless Steel.

★ GOLD NUGGET WELDED GRATING

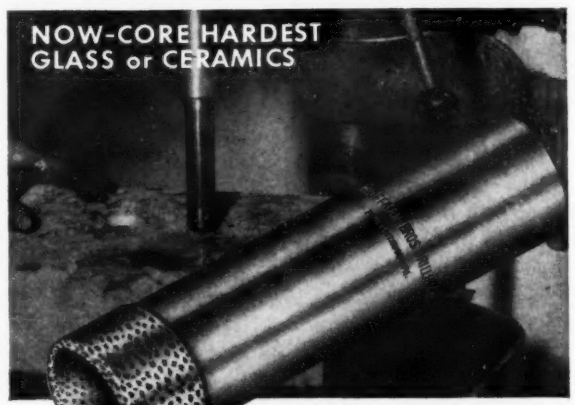
I-Beam and Flat Bar construction—projection welded for greater rigidity and strength.

For architects, consulting engineers, plant superintendents, maintenance engineers, safety engineers, contractors, builders—for every safety purpose . . . fire proof, slip proof, maximum strength with minimum weight—cool in summer, warm in winter, self cleaning. A grating for any purpose, any load, any budget.

Write for your free copy TODAY. 112

PRODUCTS DIVISION THE GLOBE COMPANY
4002 S. Princeton Ave., Chicago 9, Illinois

For more details circle NED-558 H1 on enclosed inquiry slip



Hoffman Glaceram® Core Bits

Hoffman Bit cores through high density alumina in seconds.

Large matrix with heavy diamond concentrate assures long, low cost coring.

OUTPERFORMS • LASTS LONGER • COSTS LESS

Hoffman Glaceram Bits are highly efficient over the widest range of industrial applications in coring extremely hard materials. Their special design assures better than "three-to-one" bit life for drilling or finish grinding glass, ceramics, quartz, flint, porcelain, etc. . . . even where face widths are as low as .025". Hold original O.D. or I.D. accuracy for life of the bit. In 1/8" to 2 7/8" diameters.

Write for Literature and prices. Ask about Free materials tests.

Diamond Tool Experts Since 1902

HOFFMAN BROS. DRILLING CO.
106 Cedar Street • Punxsutawney, Penna.

For more details circle NED-559 H1 on enclosed inquiry slip

Max. Inlet Pressure 250 psi
Outlet pressure ranges
0 - 5 psi
5 - 35 psi
35 - 100 psi
Connections 1/4" NPT
(Options include side tap for pressure gauge, internal relief valve, hand wheel adjustment)

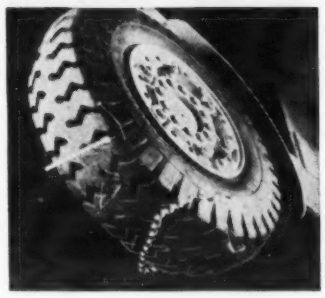
New way to filter and Control Gas or Air

The Rockwell "080" filter regulator assures a clean supply of gas or air delivered at a constant pressure to pneumatic systems, instruments, paint spray units, air chucks, etc. *It's very economical to buy and easy to maintain.* The filter is replaceable; a drain valve is provided. Also available without filter. Write for bulletin 1111-A. Rockwell Manufacturing Company, Dept. 45-H, Pittsburgh 8, Pa. In Canada, Rockwell Manufacturing Company of Canada, Ltd., Box 420, Guelph, Ontario.

"080" FILTER REGULATOR
another fine product by
ROCKWELL

For more details circle NED-560 H1 on enclosed inquiry slip

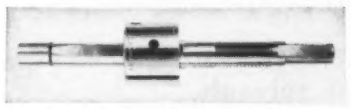
INDUSTRIAL TIRE
pneumatic type resists abrasion



Heavy zig-zag lugs leading in from each shoulder of the Cross-Rib pneumatic industrial tire provide traction and braking ability, while the continuous center of the tread delivers a smooth ride. Tire is designed to resist gouging, abrasion, and cutting in severe service encountered in fork lift truck operation in warehouses, steel mills, factories, mines, and lumber yards. A tough rubber compound is used with a body of tempered cord. • **Goodyear Tire & Rubber Co.**, 1144 E. Market St., Akron 16, Ohio.

For more details circle NED-561 H1 on enclosed inquiry slip

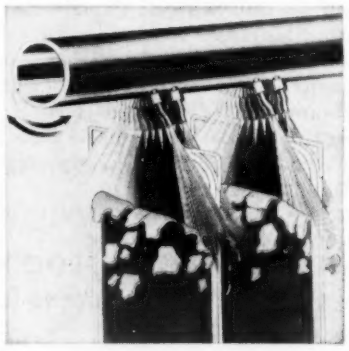
EXPANDING MANDRELS
threaded type holds close tolerances



Accurate within 0.0002 in. Type T threaded expanding mandrels are used where the workpiece must be held on the pitch diameter of an internal thread and the OD must be concentric. The shoulder or end of the work is held square to the internal thread. They are used in machining, grinding, balancing, inspection, and other types of work, with mandrel jaws remaining parallel through their expansion range. Available are UC-Threads from 1/4-in.-20 to 2 1/2-in.-4 and UF-Threads from 1/4-in.-28 to 1 1/2-in.-12. Left-hand threads and larger sizes can be ordered. • **LeCount Tool Works, Inc.**, Box 252, Cheshire, Conn.

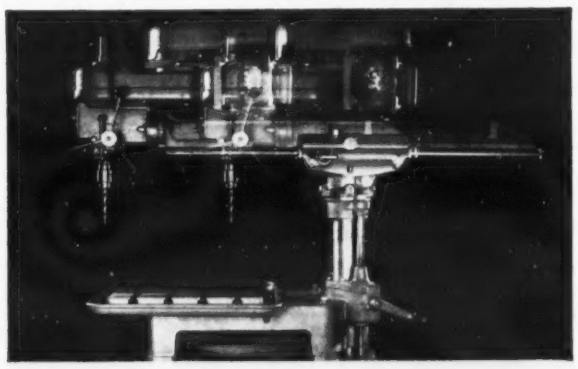
For more details circle NED-562 H1 on enclosed inquiry slip

PRESSURE LEAF FILTER
oscillating sluice cleans leaves



Usable in brewing, chemical, and food industries as well as in processing plants, this pressure leaf filter features an oscillating sluice which completely cleans all types of filter cake from leaves up to 60 in. high. These horizontal or vertical filters use tubular jets mounted on a header pipe to provide the sluicing action on each side of every leaf, with the header oscillated mechanically or manually. Total cleaning time is as little as 15 sec, and a minimum of sluicing liquid is needed. • **Duriron Co.**, Box 1019, Dayton 1, Ohio.

For more details circle NED-563 H1 on enclosed inquiry slip

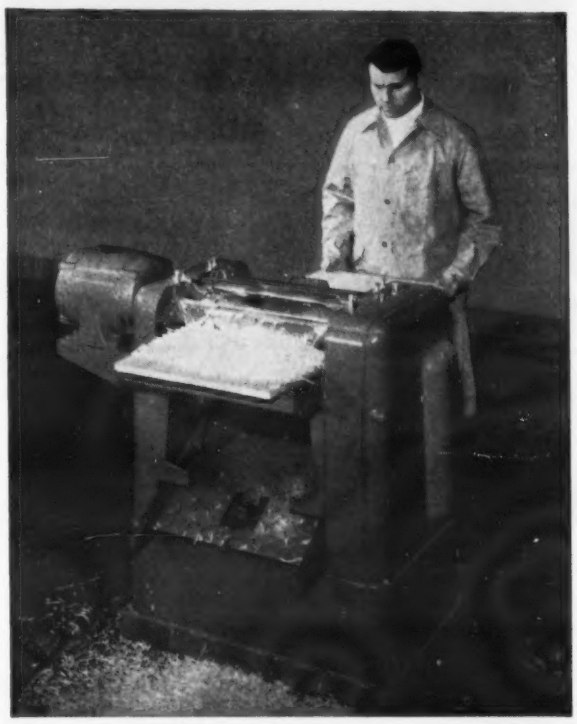


YOU CAN'T BUY MORE DRILLING *FLEXIBILITY*

Walker-Turner "Light-Heavyweight" Radial Drill Presses do the work of machines costing twice as much! You'll save set up and fixturing time for special drilling of large or heavy stock because: head moves 18" on traveling ram, swivels 360° around column, tilting 45° left or right. You get a choice of 15 speeds to 8300 rpm. See your W-T Distributor (listed under MACHINE TOOLS or TOOLS in the Yellow Pages) or write for FREE Catalog: Rockwell Manufacturing Company, Walker-Turner Division, Dept. WH45, 400 N. Lexington Ave., Pittsburgh 8, Pa.

WALKER-TURNER
"LIGHT-HEAVYWEIGHT" MACHINE TOOLS
another fine product by
ROCKWELL

For more details circle NED-564 H1 on enclosed inquiry slip



YOU CAN DO MORE WITH DELTA'S NEW 18" PLANER

Now—for only $680.00*—you can own a machine that is an outstanding value in its class. It offers these "most wanted" features:

Wedge bed construction for greater work support, more accuracy and simpler adjustment than conventional raising screws.

Advanced design feed system with separate feed motor delivering full power to the feed rolls; eliminates clutch; provides fast stop of feed and cutterhead with a single electrical control.

Big capacity to handle stock up to 6" thick and in varying widths up to 18".

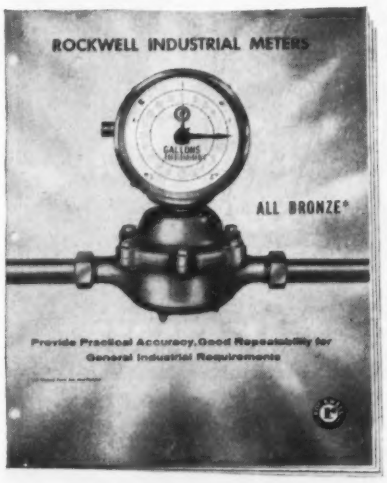
Before you spend *any* money for a planer, spend a few minutes with your Delta Industrial Distributor—he's listed under TOOLS or MACHINERY in the Yellow Pages.

**Cat. No. 22-201*

FREE BROCHURE gives specifications for belt and direct drive models equipped with 3 and 5 hp single phase motors or 3, 5 and 7 1/2 hp three phase motors. Write: Rockwell Manufacturing Company, Delta Power Tool Division, 626H N. Lexington Ave., Pittsburgh 8, Pa.

DELTA INDUSTRIAL TOOLS
another fine product by
ROCKWELL

For more details circle NED-565 H1 on enclosed inquiry slip



NEW!
Low Cost Meters

Send for free bulletin

You can handle up to 95% of all your in-plant metering needs with this sturdy meter design. You'll save on first cost and save substantially thereafter by gaining accurate records over all piped liquids for cost, inventory and usage control. Write for bulletin, PI-666. Rockwell Manufacturing Company, Dept. 126H, Pittsburgh 8, Penna. In Canada: Rockwell Manufacturing Company of Canada, Ltd., Box 420, Guelph, Ontario.

INDUSTRIAL METERS
another fine product by
ROCKWELL

For more details circle NED-566 H1 on enclosed inquiry slip

CONTROL COSTLY PIPE MOTION

Flexonics METAL HOSE

Your Flexonics distributor is a "Pipe Motion Specialist." Let him analyze your pipe motion problems, make recommendations that minimize equipment maintenance, prolong its life. He has a large inventory of standard hose and fittings . . . is equipped to fabricate complete assemblies to your specifications.

For fast, dependable local service call your

Flexonics

PIPE MOTION SPECIALISTS

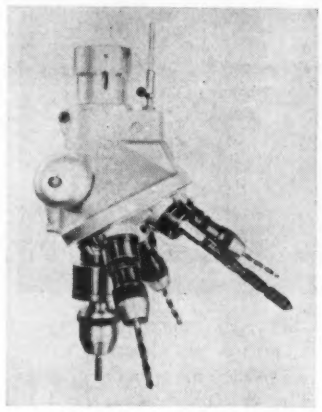
1H-445

Write for your free copy—FLEXONICS METAL HOSE CATALOG.

FLEXONICS
DIVISION OF CALUMET & HECLA, INC.
362 East Devon Ave., Bartlett, Ill.

▲ For more details circle NED-567 H1 on enclosed inquiry slip ▲

INDEXING DRILL HEAD
automatic unit has 2 to 5 spindles

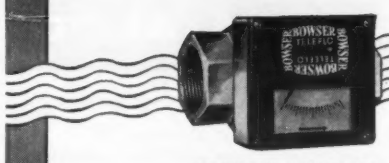


Eight independent speeds are available on the ARBO-3 automatic indexing multispindle drill head, all spindles of which are quickly interchangeable. The turret type unit takes from two to five tools at one time. Spindles are provided with Morse and Jacobs tapers, and with suitable drilling and tapping chucks. Workpieces can be completely machined with a single set-up. Spindle reversing during tapping is not required, and automatic indexing is independent of drill press motor. Drilling capacity is 1/8 to 1 in. and tapping capacity is 1/8 to 15/16 in. • **Jersey Mfg. Co.**, 401 Livingston St., Elizabeth, N. J.

▲ For more details circle NED-570 H1 on enclosed inquiry slip ▲

BOWSER

FLOW indicators



TELEFLOW INDICATOR

Mechanical and electrical flow indicators; single and double-window flow sights; window flow indicators; and a full line of sight-feed oilers for O.E.M., in-plant and mill or machine installations.

FLOW INDICATORS

FLOW INDICATING DEVICES

FLOW SIGHTS

FREE FACTS BOOKLET

BOWSER, Inc. Fort Wayne, Ind.

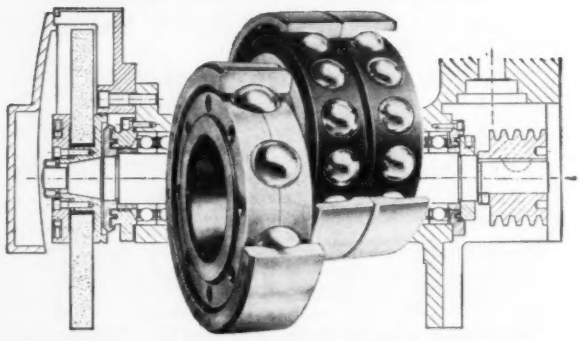
▲ For more details circle NED-574 H1 on enclosed inquiry slip ▲

ULTRASONIC CLEANERS
use safe Freon solvents

Engineered expressly to use Du Pont Freon solvents, AutoSonex ultrasonic cleaning machines are caster mounted for movement within the plant. Several models have been developed for various delicate equipment, electronic component, metal part, and other cleaning operations. The Freon solvents used are nonflammable and virtually nontoxic. They remove most dirt, grease, and soil quickly without damage to parts being cleaned. In illustrated machine, parts move automatically through a series of rotating wheels where they are immersed in ultrasonically agitated Freon, rinsed, drained, and discharged clean, dry, and ready for the next operation. One model handles up to 18,000 parts per hour. • **AutoSonics, Inc.**, 4217 Chestnut St., Philadelphia 4, Pa.

▲ For more details circle NED-571 H1 on enclosed inquiry slip ▲

For job-right selection . . .



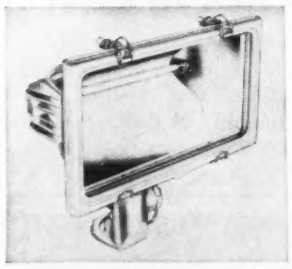
FAFNIR SUPER-PRECISION BALL BEARINGS

You play it safe three ways with Fafnir super-precision ball bearings. 1. The Fafnir line includes the types, sizes, tolerances, capacities, retainer designs, contact angles, and preloads to meet your needs precisely. 2. Fafnir quality is unsurpassed. You're sure of top performance and service life. 3. Your Authorized Fafnir Distributor offers you competent technical help with replacements — plus Fafnir engineering services when needed. For job-right selection, get Fafnir Ball Bearings from Fafnir's coast-to-coast network of authorized distributors. The Fafnir Bearing Company, New Britain, Connecticut.

FAFNIR BALL BEARINGS

▲ For more details circle NED-568 H1 on enclosed inquiry slip ▲

WEATHERPROOF FLOODLIGHT
uses 1500-w quartz-iodine lamp



Light output of 22 lumens per watt over a 2000-hr life is realized from the 1500-w quartz-iodine lamp used in the Quartzlite 1500 Intenso floodlight. Measuring only 14 3/8 x 9 x 6 7/8 in. and weighing only 19 lb with its pole fitting, the floodlight has a sharp vertical beam plane and an easily controlled cutoff to eliminate "spill" light. The weatherproof, yet easily-cleaned unit has wide horizontal light distribution, and may be used indoors or outdoors. Finned housing is aluminum and reflector is Alzak aluminum. An internally mounted fuse is incorporated. • **Appleton Electric Co.**, 1701 Wellington Ave., Chicago 13, Ill.

▲ For more details circle NED-572 H1 on enclosed inquiry slip ▲

NEW IMPROVED DESIGN SNAPO AUTOMATIC DELUXE RIVET GUN

ONLY $22.95 COMPLETE KIT WITH RIVETS

• Pocket Size • All-Steel Construction

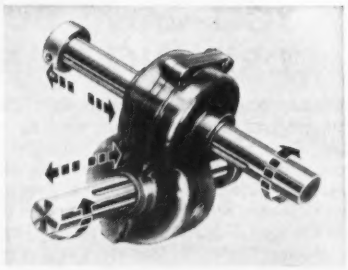
For "blind"—and for many non-blind applications—here is the answer to low-cost, quick assembly. "SNAPO Automatic Deluxe" is jam-proof because of automatic ejection of the mandrel nail after the unique rivet is set. Eliminates many welding jobs, replaces sheet metal screws, bolts and nuts, gets into confined areas. Rivets absolutely will not vibrate loose, heads countersunk for easy finishing. *Write today!*

The Finest "Blind" Rivet Gun Made
We invite you to compare, and you'll agree that this is the most durable, highest quality, easiest-to-use "Blind" rivet gun made. Save time and money on fastening, repair jobs.

RICHLINE CO., INC. 1531 E. Franklin Ave. Minneapolis 4, Minn.

▲ For more details circle NED-575 H1 on enclosed inquiry slip ▲

RIGHT-ANGLE GEAR DRIVE
self-aligning on both shafts



Floating feature of this Tol-O-Matic right-angle gear drive permits self-alignment and automatic adjustment on driving and driven shafts. Unit can be used in many applications requiring power transmission at right angles with a 1:1 ratio. It is particularly suited for operating packaging equipment, turn tables, conveyors, rollers, and other types of industrial equipment. Installation involves assembling the gears and housings around the shafts. • **Tol-O-Matic, Inc.**, 246 Tenth Ave. S., Minneapolis 15, Minn.

▲ For more details circle NED-573 H1 on enclosed inquiry slip ▲

AIR CUTS OFF AUTOMATICALLY

Handy, versatile A-10 Air Gun shoots air where you want it, when you want it. Flex nozzle when you want air, toss hose aside when you don't. Made of grease-resistant Neoprene and machined brass. No handles, levers, springs or packing. Can't clog, break, or get out of adjustment. Hardened and plated steel tip prevents damage from dropping or dragging.

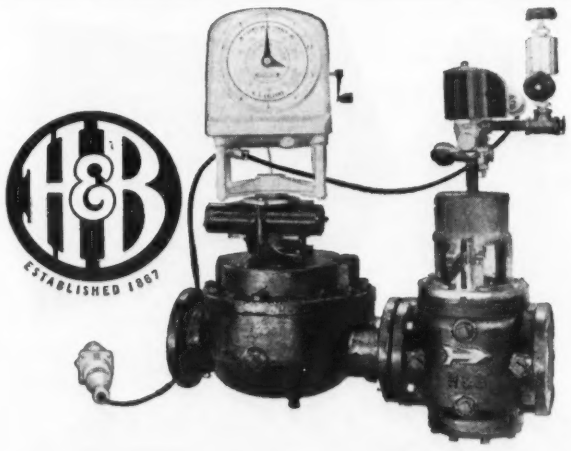
FITS 1/4" IRON PIPE THREAD

Write today for catalog and price sheets to

HECKETHORN MFG. & SUPPLY CO.
DYERSBURG, TENN.

"Makers of Flex-Tip Water Nozzles"

▲ For more details circle NED-569 H1 on enclosed inquiry slip ▲



JACKETED METER . . . with micro adjustment and automatic resetting

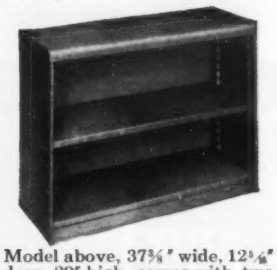
For the proper handling of heavy liquids, all meters, pumps, pipes and valves handling such materials should be jacketed. In any liquid processing operation where the maintenance of uniform temperature in the process pipes is necessary, an H & B jacketed system will assure dependable, economical production. Write for Bulletin Fl-56.

HETHERINGTON & BERNER INC.
725 KENTUCKY AVENUE INDIANAPOLIS 7, INDIANA
A Wholly Owned Subsidiary of American Hoist & Derrick Company

▲ For more details circle NED-576 H1 on enclosed inquiry slip ▲

LYON® BOOK CASES

Use these bookcases individually or in continuous rows to provide number and size of openings needed. Sliding shelves adjustable on 1½" centers. Snap-on book stops permit instant partitioning. Baked-on gray enamel finish. Model at left is 37⅜" wide, 12⅝" deep, 86" high.



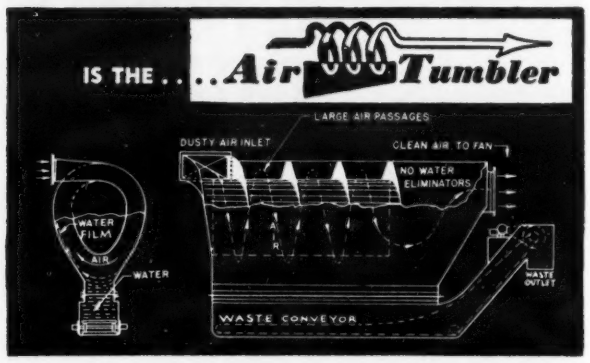
Model above, 37⅜" wide, 12⅝" deep, 29" high, comes with two end finishing panels. Counter high unit, 37⅜" wide, 12⅝" deep, 42" high also available.

Write for free 100-page Lyon Catalog.

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

▲ For more details circle NED-577 H1 on enclosed inquiry slip ▲

The MASTER of DUST in INDUSTRY



The Wet Collector that becomes Standard Equipment wherever tried because it does a better job at less cost.

More than one million CFM in ONE plant

Write for Bulletin No. 601. Address:

DUST SUPPRESSION & ENGINEERING CO.
P. O. BOX 67 • LAKE ORION, MICHIGAN

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LYON® TOOL TOTERS

Dozens of uses for these sturdy steel toters — in toolrooms, stockrooms on assembly lines. 18" wide, 24" deep, 34½" high.

Built-in drawers operate in closed case for extra strength and permanent alignment. Each drawer has padlock attachment (locks not furnished). Easy-rolling swivel casters. Finished in durable gray baked-on enamel.

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LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
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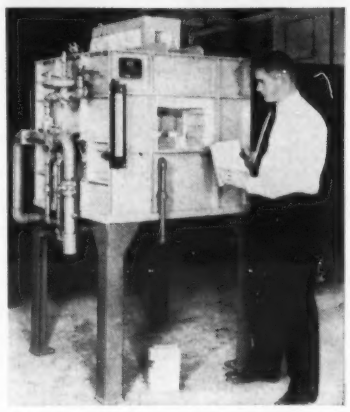
HIGH TEMPERATURE KILN for temperatures to 3200° F

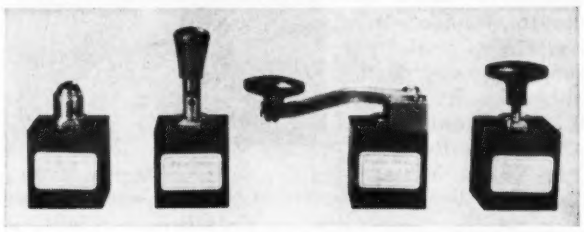


Simplified installation and operations are features obtained by redesign of this No. 2320 high temperature kiln. All operating valves and controls are conveniently grouped, and door is at proper height to facilitate loading and unloading. An inspirating gas mixer assures proper gas-air ratio and permits one-valve automatic or manual control. A diffusion air system provides uniform soaking heats from 400° to 3200° F. Setting dimensions are 12 x 18 x 9 in. or 12 x 24½ x 9 in. with fuel inputs of 300,000 or 400,000 Btu/hr. • **Bickley Furnaces Inc.**, 550 State Rd., Philadelphia 14, Pa.

▲ For more details circle NED-580 H1 on enclosed inquiry slip ▲

POPPET-TYPE VALVES two and three-way units offered

Fingertip, ball cam, palm button, and toggle actions are available in these two and three-way poppet type valves. Units have a 1¼ x 1½ x 1¼-in. aluminum



bar stock body and full ¼-in. flow. Replacement of cartridge type insert completely renews the valve without removing it from the line. • **Superior Screw & Mfg. Co.**, Superior Controls Div., Box 436, Crystal Lake, Ill.

▲ For more details circle NED-581 H1 on enclosed inquiry slip ▲

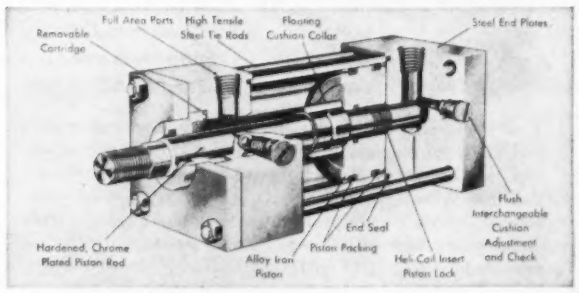
VARIABLE SPEED DRIVE is compact reversible unit

Speed ranges from 80-0-80 rpm to 1200-0-1200 rpm can be obtained with the 400 Series of reversible variable speed drives, using 1800-rpm input. The reverse control is a separate knob or lever which is operated independently of the speed control lever. Drive is supplied in 33 fractional horsepower models. Over-running clutches on the smaller models and bell-crank and gear arrangement on the larger units effect the reversal. Torque ratings are 3 to 450 lb-in. • **Zero-Max Co.**, 2845 Harriet Ave. S., Minneapolis 8, Minn.

▲ For more details circle NED-582 H1 on enclosed inquiry slip ▲

AIR & HYDRAULIC CYLINDERS removable cartridge eases servicing

Having both the cushion adjustment and ball check flush in the end plates of Series A2 air and hydraulic cylinders saves space and eliminates clearance prob-



lems. Installation flexibility is achieved, since both are interchangeable. Rated for 250-psi air and up to 2400-psi hydraulic, cylinders have a removable cartridge to speed servicing. Lip type wiper seal, flexible self-adjusting multiple lip rod seal, and extra long bronze bearing are incorporated. Series is built to automotive and JIC standards in 11 bore sizes from 1½ to 14 in., 25 mounting styles, and a wide range of piston rod diameters. • **S-P Mfg. Corp.**, 30201 Aurora Rd., Cleveland 39, Ohio.

▲ For more details circle NED-583 H1 on enclosed inquiry slip ▲

LYON® SLOTTED ANGLE

THE LOW COST ANSWER TO SCORES OF STORING, RACKING, STACKING, MOUNTING PROBLEMS

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Factories in Aurora, Ill.—York, Pa.—Los Angeles
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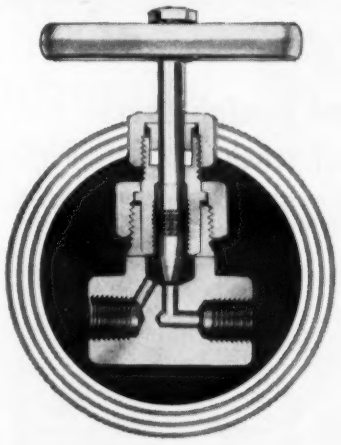

SOLVE YOUR METER MANIFOLD AND CORROSIVE FIELD SERVICE PROBLEMS

AMERICAN® NEEDLE VALVES

Teflon-packed forged steel American Needle Valves eliminate gland leaks, deliver dependable service under the toughest conditions. Stainless or carbon steel precision machined valve bodies are ideally suited for welding. Stainless steel centerless-ground valve stem design makes it simple to repack valves under pressure.

Standard valves design rated for pressures to 5,000 psi at 70°F. Upon request, assembled valves are hydrostatically tested to 10,000 psi (twice rated working pressure) and are individually inspected. Valves also furnished with graphite-impregnated asbestos packing for temperatures above 450°F.

Angle or straight patterns — screwed or union bonnets.

Your American Meter representative will give you full details.

AMERICAN® METER COMPANY
(INCORPORATED ESTABLISHED 1836)
General Offices: Philadelphia 16, Pa.
Sales Offices in Principal Cities

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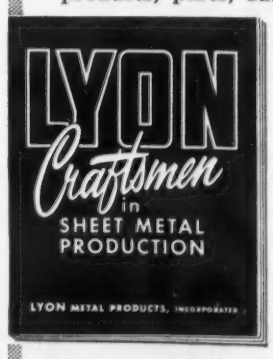
DO YOU NEED a low-cost source of metal fabricating?

Three large, well equipped plants at **Aurora, Ill., York, Pa.** and **Los Angeles** geared to economical production. Experienced in handling thousands of special items . . . products, parts, sub-assemblies, merchandising units, made to your specifications.



Modern equipment includes coil steel slitting, leveling and edging, press work, all types of welding, electrostatic finishing. Sound design and engineering counsel.

Send for 16-Page Booklet
It tells All!

LYON METAL PRODUCTS, INC.
General Offices, 831 Monroe Avenue, Aurora, Illinois

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If your new product requires a special fractional horsepower motor, let Lamb Electric do the THINKING • DESIGN • MANUFACTURE • You get the RIGHT motor produced at the most favorable cost.

FREE! Write today for descriptive folder, and information on how you can set up a "Motor Conference"

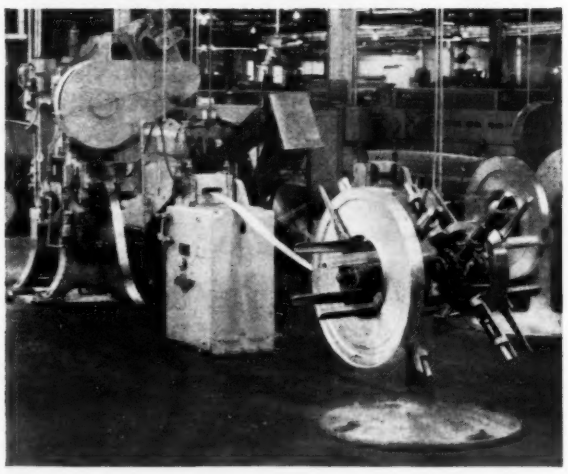
THE LAMB ELECTRIC COMPANY • KENT, OHIO
A Division of American Machine and Metals, Inc.
In Canada: Lamb Electric — Division of Sangamo Company Ltd.—Leaside, Ontario

Lamb Electric
SPECIAL APPLICATION FRACTIONAL HORSEPOWER MOTORS

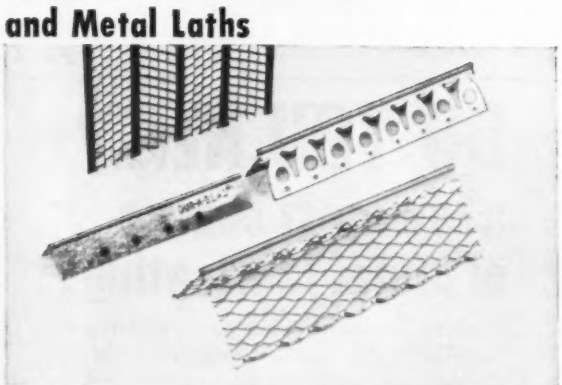
▲ For more details circle NED-588 H1 on enclosed inquiry slip ▲

LITTELL

Double Reels and Straighteners speed up the coil stock



for non-stop output of USG® Corner Beads and Metal Laths



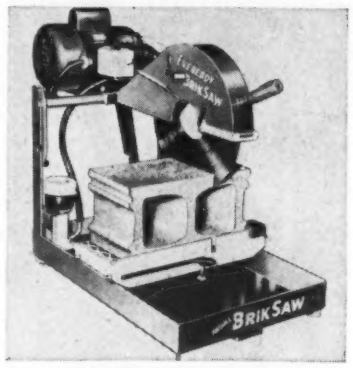
At U. S. Gypsum's Warren, Ohio, plant, the down time is two seconds—no more, when a coil of stock is paid out. In one second the LITTELL Double Reel is rotated 180 degrees and the new coil is ready to go. In one more second the new stock is moving through the LITTELL Straightener. The automated machines stamp, roll, and shear USG Corner Beads and Metal Laths in a continuous operation. In this way, U. S. Gypsum uses LITTELL Reels and Straighteners to maintain maximum production efficiency.

COILY SAYS: "You can do it, too. Write for free LITTELL Reel and Straightener Catalogs."

F. J. LITTELL MACHINE CO.
Series "C" for Straighteners
Series "D" for Reels
4169 N. RAVENSWOOD AVENUE, CHICAGO 13, ILLINOIS

▲ For more details circle NED-589 H1 on enclosed inquiry slip ▲

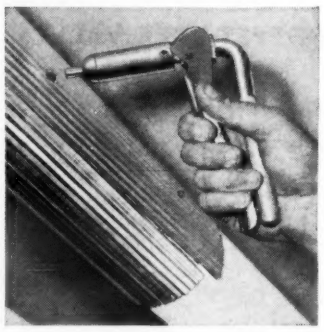
PORTABLE MASONRY SAW
cuts brick, concrete block, stone



Easily carried in truck or car, Model PW-15 portable BrikSaw is powered by a 1½-hp motor which is convertible for 115 or 230-v operation by a flick of a switch. Coolant can be supplied by a built-in water pump. Saw is locked in place for precision sawing at any height, while the material is held safely with a locking clamp. The steel conveyor top is slotted to prevent blade damage on through cuts. • **Eveready BrikSaw Co.**, Dept. 578, 1104 Union Ave., Kansas City 1, Mo.

▲ For more details circle NED-590 H1 on enclosed inquiry slip ▲

HAND RIVET GUN
installs fasteners from one side

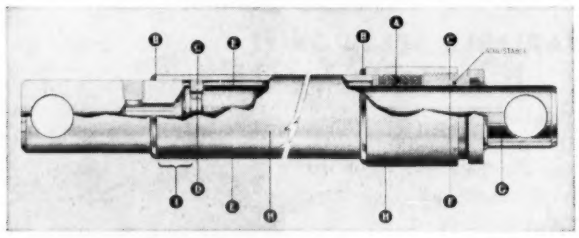


Redesigned Model PG 200 Pli-Grip rivet gun is easy-to-operate and is particularly suited for fastening aluminum jacketing around pipe insulation. Blind rivets are installed from one side of work by a simple squeeze of the plier-like handles. • **Insul-Coustic Corp.**, 42-23 54th Rd., Maspeth 78, N. Y.

▲ For more details circle NED-591 H1 on enclosed inquiry slip ▲

HYDRAULIC POWER RAM
for actuating implements

Originally designed to actuate Jeep and tractor-mounted accessories, this leakproof hydraulic power ram is practically wearproof. Low and high pressure seal-



ing elements are combined with pressure tight Mig welding and sintered bronze guide rings to eliminate leaks. Rod wear is minimized by hard chrome plating. • **Ward Hydronics, Inc.**, 11600 Genesee St., Alden, N. Y.

▲ For more details circle NED-592 H1 on enclosed inquiry slip ▲

New! Weld-Bilt
LIGHTWEIGHT HYDRAULIC
PALLET LIFT TRUCK

Easier to Use . . .
Fully Hydraulic . . .
Lower Cost . . . Sizes For All Pallets

This Weld-Bilt All-Hydraulic Lift Truck will save time and labor maneuvering your single or double-faced pallets. It's an easy-rolling, lightweight, inexpensive Weld-Bilt that is built for tough daily service in plant or warehouse. Seven booster rollers on each fork assure easy pallet entry and withdrawal. Extra product protection provided by Weld-Bilt cushioned action hydraulic lowering.

Write for Bulletin 361.

"Weld-Bilt" PRODUCTS

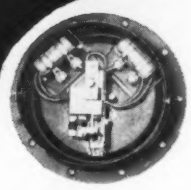
WEST BEND EQUIPMENT CORP.
MATERIALS HANDLING ENGINEERS
311 Water Street
West Bend, Wisconsin

▲ For more details circle NED-593 H1 on enclosed inquiry slip ▲

0-60 psi PRESSURE CONTROL WITH OVER-PRESSURE PROTECTION TO 5000 PSI

Other ranges available 0-100 psi, 0-150 psi., and 0-300 psi., also with over-pressure protection to 5,000 psi.

1-60" PRESSURE CONTROL OPERATES DOWN TO 1" (wc)
WITHSTANDS 600 PSI INDEFINITELY

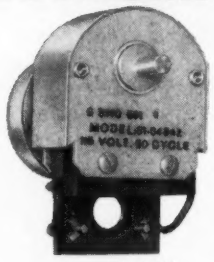


WRITE FOR BULLETIN NO. 12
THE MERCOID CORPORATION
4203 Belmont Avenue Chicago 41, Illinois

MERCOID CONTROL®

▲ For more details circle NED-594 H1 on enclosed inquiry slip ▲

ECONOMICAL PROCESS CONTROL



Model 81
For mounting at rear of customer's panel. (Also available with dial and pointer for front panel mounting.)

with Hagen single circuit motor reset timers

This versatile, cost-saving timer is used for controlling a process or series of processes to be operated for a selected interval and then shut off automatically.

• **TIMING OPERATION** starts when external contact is closed; remains for duration of cycle.

• **UNIQUE MOUNTING** of Reset Spring provides uniform tension throughout timing scale, for long spring life.

• **MOTOR IS PROTECTED** by over-ride, slip-clutch assembly when timers remain in "timed-out" position while motor coil is energized.

ADJUSTABLE TIME SETTINGS . . . CONTACT RATING: 15 Amperes 125/250 DIAL SPREAD: 225 Degrees . . . UNIT AVAILABLE WITH OR WITHOUT CALIBRATED DIAL AND POINTER. Send for HAGEN Bulletin 1610

BLISS
HAGEN MANUFACTURING COMPANY
BARABOO, WISC.
A DIVISION OF THE GAMEWELL COMPANY, AN E. W. BLISS COMPANY SUBSIDIARY

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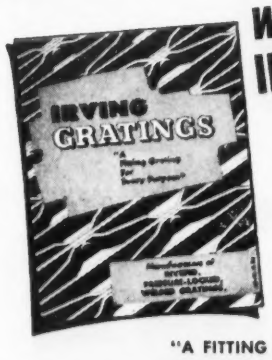
Want a Complete GUIDE TO GRATINGS?



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Manufacturers of the most complete line of gratings—147 different mesh designs for an enormous variety of industrial, architectural and decorative applications. Mesh sizes begin with ¼" face to face to 6" face to face of bearing bars.

"A FITTING GRATING FOR EVERY PURPOSE"

Riveted, Pressure-Locked, Welded Gratings of Steel, Aluminum and other metals.

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IRVING SUBWAY GRATING CO., Inc.
Originators of the Grating Industry
Offices and Plants at
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new

EATON-RELIANCE

FASTITE NUTS

The best answer yet devised to keep tension in bolted assemblies is the Fastite nut developed by Eaton-Reliance. The Fastite assembly is a combination nut and helical spring washer, permanently held together, but free to rotate when pressure is applied. The helical spring washer provides a much greater reactive range and tension than other types of washers.

Write in for a comparative-tension graph.

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509 CHARLES AVENUE • MASSILLON, OHIO

SALES OFFICES: NEW YORK • CLEVELAND • DETROIT
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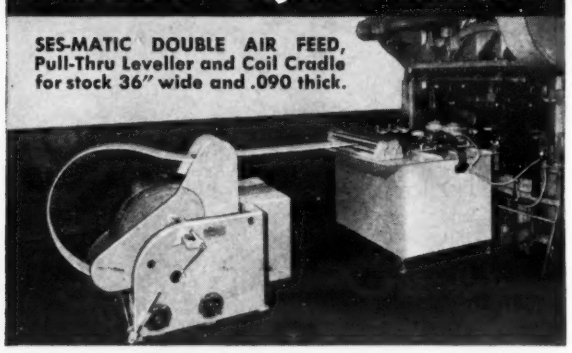
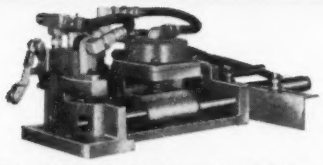
For more details circle NED-597 H1 on enclosed inquiry slip

You get POWER, SPEED and ACCURACY with . . .

Ses-Matic PRESS EQUIPMENT

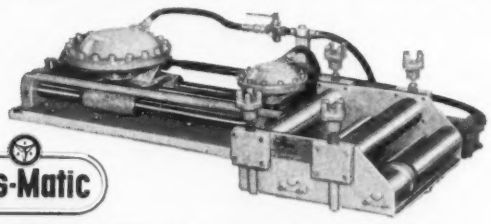


SES-MATIC DOUBLE AIR FEED, Pull-Thru Leveller and Coil Cradle for stock 36" wide and .090 thick.



Ses-Matic

SES-MATIC "JUNIOR" AIR FEED for feeding up to 4 inch wide materials and .06 thickness with a 4 inch maximum stroke advance. Up to 250 strokes per minute and accuracy to .002 inch.



Ses-Matic

SES-MATIC AIR FEED for most materials up to 30 inches wide, up to 1/4 inch thick. Accurately feeds and levels the stock.

Ses-Matic

SES-MATIC DOUBLE AIR FEED with Pull-Thru Stock Leveller. Models available for materials up to 72 inches wide and thicknesses up to 1/4 inch.

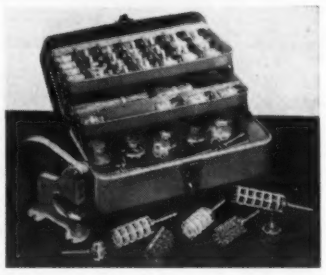
Write for complete catalog of Press Feeding Equipment.

Ses-Matic Press Equipment
DIV. OF SPECIAL ENGINEERING SERVICE, INC.
7636 Wyoming • Dearborn, Mich.

Ses-Matic

For more details circle NED-598 H1 on enclosed inquiry slip

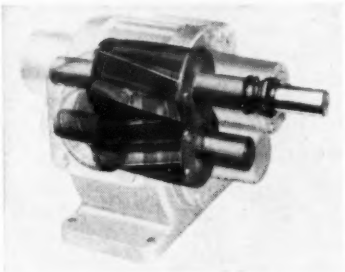
ROTARY SWITCH KIT
for building switches to exact size



Prototype miniature rotary switches can be designed and built to exact specifications with this PK-20-S kit. Up to 25 four-section switches can be assembled from the kit, including Centralab PA1000 1 7/16-in. diameter units and PA2000 1½-in. diameter ceramic units. Replacement parts for kit are available. • **Globe-Union Inc.**, Centralab, Electronics Div., 900 E. Keefe Ave., Milwaukee 1, Wis.

For more details circle NED-599 H1 on enclosed inquiry slip

BULK PLANT & DELIVERY PUMP
capacity is 345 gpm at 900 rpm

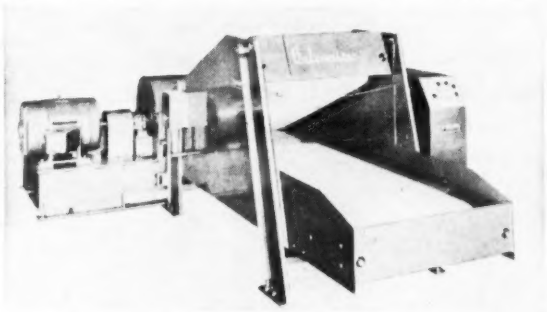


Usable in the petroleum and processing industries, Figure 3638 gear pump handles a wide variety of liquids. Use of aluminum alloy contributes to a 50 per cent weight reduction. Operating pressure is 100 psi on fuels and 125 psi on lube oils, with a capacity of 345 gpm at 900 rpm. A pilot operated relief valve is unaffected by speed, flow, or change in rate of flow. Hardened chrome-iron pumping gears are integrally cast with the case hardened alloy steel shafts. Pump operates in either direction or any position. • **Roper Hydraulics, Inc.**, Commerce, Ga.

For more details circle NED-600 H1 on enclosed inquiry slip

PAPERBOARD HOGGER
used with scrap, baling equipment

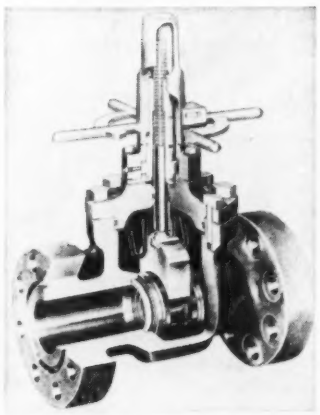
Moderate hogging capacity requirements are met by this low cost 36-in. hogger for corrugated, boxboard, paper slabs, roll ends, and signatures. Supplied in



standard models, it is readily adapted for use with present scrap handling and baling equipment. Oversize shaft and bearings, pinch table, hogger, motor, exhauster, and control panel are incorporated in the unit, furnished ready for connection to power source. • **East Chicago Machine Tool Corp.**, Balemaster Div., 4801 Railroad Ave., East Chicago, Ind.

For more details circle NED-601 H1 on enclosed inquiry slip

PLASTIC-COATED VALVES
handle abrasive, corrosive fluids



EValcoat plastic coating on the internal body surfaces of these steel gate valves enables them to handle chemicals, abrasive-corrosive liquids, and slurries. Valves are available with screwed ends in 2, 3, and 4-in. sizes with 2000 and 3000-psi working pressure ratings, and in flanged ends for 1440 and 2160-psi working pressures. Long wearing seat insert and gate are replaceable without removing valve body from line. Chromium-molybdenum steel gate fits into resilient Buna-N rubber seat insert which is molded to heavy steel rings. Insert withstands 250° F. Plastic coating resists undercutting and peeling, even if mechanically broken. • **Edward Valves, Inc.**, 1200 W. 145th St., East Chicago, Ind.

For more details circle NED-602 H1 on enclosed inquiry slip

YOU CAN SEE TANK CONTENTS

in Pounds, Gallons or Inches

WITH THE King-Gage

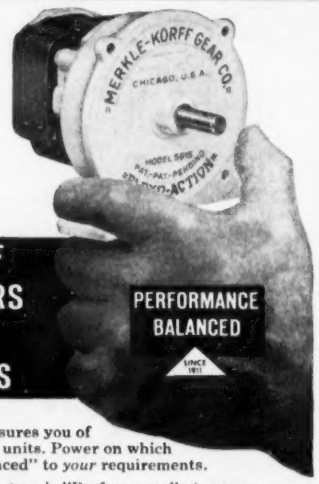
— with none of the hazards, delays and uncertainties of measuring by stick or tape. Shows weight, volume or depth of liquid in *any* storage or processing vessel — on the spot or hundreds of feet away. Guards against errors, shortages, losses. Proven through 33 years' use, in every industry. *Local service* provided.

CATALOG 1010 gives details; shows many applications. May we send you a copy?

KING ENGINEERING CORP.
3223 S. State St. Ann Arbor, Mich.
LIQUID LEVEL GAGES, MANOMETERS, ACCESSORIES—SINCE 1937

For more details circle NED-603 H1 on enclosed inquiry slip

A FISTFULL OF DEPENDABLE POWER . . .



MERKLE-KORFF IS HEADQUARTERS FOR *fhp* GEARED MOTORS

PERFORMANCE BALANCED

A 50-YEAR BACKGROUND assures you of "Performance Balanced" power units. Power on which you can rely because it is "balanced" to *your* requirements.

Your primary interest in gear motors is "Performance" at reasonable cost. Merkle-Korff "Performance Balanced" gear motors give you just that! Every facet of planning, designing and building your gear motors is *balanced* to provide dependable performance and long life.

Chief Merkle-Korff characteristics are small size, high starting torques, less weight, long life . . . and dependability. Thousands of combinations of motor types, speeds, torques, brakes, fans, motor covers, mounting facilities, are at our command when we design for your applications. This is why Merkle-Korff units are considered the best by original equipment manufacturers.

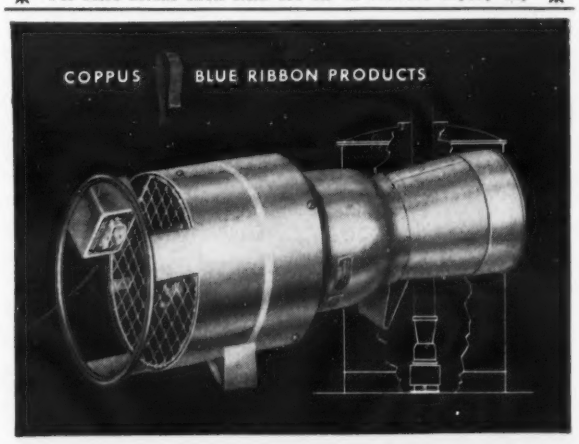
Our applications engineers are at your service; there is no obligation. Write us or telephone today.

MERKLE—KORFF MK GEARED MOTORS

MERKLE-KORFF GEAR CO.
220 North Morgan Street • Chicago 7, Illinois
Telephone: MO nroe 6-1900

For more details circle NED-604 H1 on enclosed inquiry slip

COPPUS BLUE RIBBON PRODUCTS



COPPUS "Blue Ribbon" Ventilator-Blowers are portable and easily adaptable . . . for supplying fresh air or discharging foul air or fumes. Mail coupon below for facts.

COPPUS ENGINEERING CORP.
408 Park Avenue, Worcester 10, Mass.

- ☐ in tanks, tank cars
- ☐ in underground manholes
- ☐ for exhausting welding fumes
- ☐ on boiler repair jobs
- ☐ for general man cooling
- ☐ to stir up stagnant air wherever men are working or material is drying

Name .....
Company .....
Address .....
City .....

COPPUS BLOWERS

For more details circle NED-605 H1 on enclosed inquiry slip

RUGGED
GENERAL ELECTRIC
FOOT SWITCH

You get really rugged, cast-iron construction with General Electric's CR150 Foot Switch. Available in single- and two-stage forms, the switch is water-, oil-, and dust-tight—and will not skid unintentionally during operation. Use this switch wherever hands must be freed for other work . . . for instance, punch presses, riveting and resistance welding machines, and machine tools. Available with optional pedal guard for extra safety.

FREE PUBLICATION

Ask your G-E Representative for Publication GEA-7086 or write to Section 813-34, General Electric Co., Schenectady 5, N. Y.

Progress Is Our Most Important Product

GENERAL ELECTRIC

For more details circle NED-606 H1 on enclosed inquiry slip

MAY-FRAN

Steel Belt Conveyors

HINGED STEEL BELTING HANDLES FORGINGS, CHIPS, STAMPINGS AND TURNINGS.

Engineered for maximum economy, maintenance-free operation and long life, May-Fran belting is available in any width or length to meet individual requirements for load and speed. Economical customized conveyors are available from stocked component parts.

WRITE FOR BULLETIN MF-100A

MAY-FRAN MANUFACTURING CO.
1710 CLARKSTONE RD.
CLEVELAND 12, OHIO
PHONE: KE 1-2304

For more details circle NED-607 H1 on enclosed inquiry slip

...and end your Paint Removal Problems!
TIME PROVEN!

EPOXYSTRIP FASTEST WORKING LONGEST LASTING

- EPOXYSTRIP WILL NOT HARM SOFT METALS
- ECONOMICAL—MORE JOBS PER GALLON AT LOWER COST
- NO SCRUBBING OR MANUAL ASSISTANCE
- RECOMMENDED BY LEADING FINISH MANUFACTURERS

NON-CORROSIVE—a new more powerful paint stripper guaranteed to outstrip all others! No organic finishes have yet resisted this amazing paint stripper. It was especially formulated to remove epoxies and acrylics... with the same ease that it removes tough synthetics. Our 14th year of solving "tough" stripping problems.

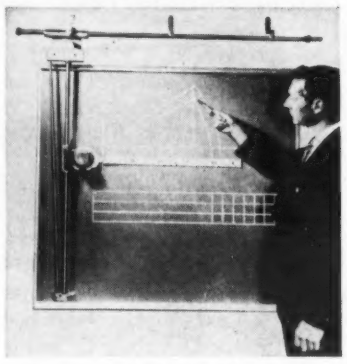
JOBBERS: Beck EPOXYSTRIP sells on demonstration. Try it and see for yourself.

WRITE FOR FREE FOLDER

BECK EQUIPMENT & CHEMICAL CO.
3350 WEST 137th STREET — CLEVELAND 11, OHIO

For more details circle NED-608 H1 on enclosed inquiry slip

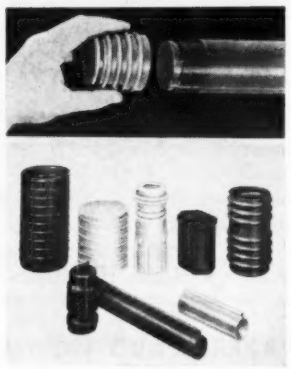
CHALKBOARD DRAFTING MACHINE for drawing complex diagrams



Auto - Flow chalkboard drafting machine can be mounted to any chalkboard with a horizontal rail across the top of the board. It speeds the presentation of complex diagrams of many types. Drawing arm slides along the guide rail for drawing straight lines the entire width of the board. Machine combines the capabilities of protractor, T-square, triangle, scale, and straightedge. It indexes through 360 degrees with automatic accurate 15-degree stops. By equipping several chalkboards with guide rails, one machine can be used in several locations. • **Keuffel & Esser Co.**, Third & Adams Streets, Hoboken, N. J.

For more details circle NED-609 H1 on enclosed inquiry slip

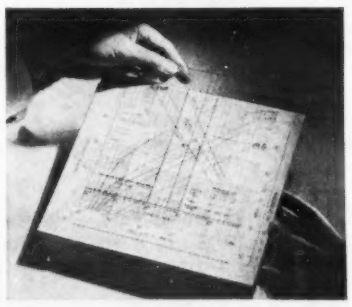
PLASTIC CAPS & SLEEVES protect threaded, machined shafts



Tough, flexible, unbreakable polyethylene used in these low cost molded protective caps and sleeves provides a seal against dust and moisture. They also afford protection against impact damage during storage, process, or transit. Production process allows them to be made to almost any depth and in many shapes and configurations. Numerous colors and translucent white are offered. Uses include protecting threaded and machined shafts, drill pipe, and many products of relatively large size or odd shape. • **Protective Closures Co.**, Caplugs Div., 2207 Elmwood Ave., Buffalo 23, N. Y.

For more details circle NED-610 H1 on enclosed inquiry slip

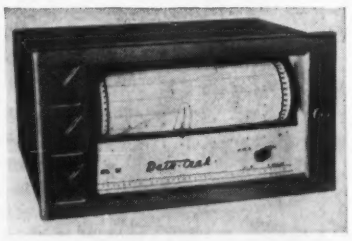
HIGH VACUUM CALCULATOR determines pump or chamber size



An 8½ x 11-in. slide rule type high vacuum calculator affords assistance in determining pump or chamber size, as well as time and pressure, for high vacuum systems. Either of two heavy gage slides held in place by a rigid vinyl casing is used to solve numerous simple vacuum problems. Together they solve many complex high vacuum problems. Price is $2. • **Consolidated Vacuum Corp.**, 1775 Mt. Read Blvd., Rochester 3, N. Y.

For more details circle NED-611 H1 on enclosed inquiry slip

FUNCTION GENERATOR drives up to four potentiometers



Manual set-point control is converted to automatic program control by the Data-Trak function generator. After adding a pencil drawn program curve and connecting three wires from the unit's output potentiometer to existing circuits, the instrument stylus follows the program and turns a control potentiometer. As many as four three-gang potentiometers may be driven by the same curve follower mechanism to provide up to 12 separate synchronized control signals. Program chart, follower probe, and curve position indicators are visible through the glass door. Standard strip chart recorder paper is used for same-scale comparison with a recording of the programmed variable. • **Research, Inc.**, Box 6164, Minneapolis 24, Minn.

For more details circle NED-612 H1 on enclosed inquiry slip

Whenever you have a sticking problem.....!

Use IMS SILICONE FLUID SPRAY

To cut your reject costs!

Next time you walk through the plant and see them losing production due to process sticking in molding, packaging or cutting ... just order IMS Silicone Spray! You'll want to take a can home too, to prove its superb lubricating and anti-stick quality on locks...ice trays... guns...fish reels...storm windows, etc.

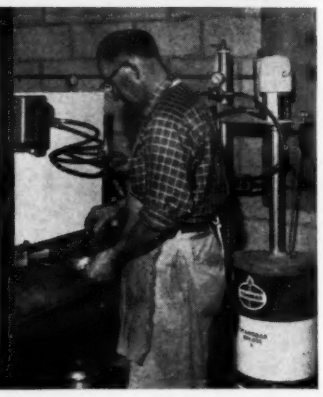
Look for your FREE BONUS card in each unbroken dozen. Just mail us 12 of these cards and we'll send you one dozen cans at no charge!

PRICES (Delivered)
Sample Can $2.00
Per Unbroken Dozen $18.00
Per Unbroken Gross $197.40

INJECTION MOLDERS SUPPLY CO. INC.
17601 So. Miles Rd. Cleveland 28, O.

For more details circle NED-613 H1 on enclosed inquiry slip

GRACO TOPPER PUMP helps floor machine manufacturer cut costs, improve product



Multi-Clean Products Inc., of St. Paul, Minn. improved their product quality, cut their costs with the addition of a Graco air-powered Topper Pump.

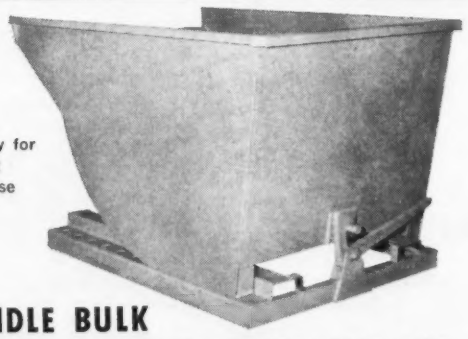
Pre-determined amounts of grease can be dispensed into floor machine gear cases with the system designed for Multi-Clean by Graco. The Topper Pump also scrapes the barrels clean . . . eliminating hand emptying.

For information on fluid or semi-fluid material transfer, contact your Graco Representative.

GRACO ENGINEERS & MANUFACTURERS / GRAY COMPANY, INC. 87 Graco Square Minneapolis 13, Minnesota

See Phone Book Yellow Pages "Spraying" for Graco Suppliers

For more details circle NED-614 H1 on enclosed inquiry slip



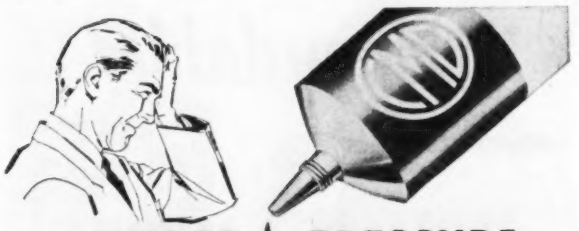
¾ yd. capacity for fork lift truck use

HANDLE BULK MATERIALS WITH ECONOMY AND EASE IN CHASE DUMP HOPPERS

Sturdy construction and careful balance make this self-dumping hopper ideal for handling bulk materials, parts, scrap, etc. Models for use with platform or fork lift truck. All welded construction, using 3/16" steel plate. One man can operate the hopper alone — the hopper automatically dumps and returns to locked upright position. Special styles may be stacked full or empty. Sizes to suit your needs. Write for catalog sheet and prices.

Chase FOUNDRY & MANUFACTURING CO.
2950 Parsons Avenue • Columbus 7, Ohio

For more details circle NED-615 H1 on enclosed inquiry slip



UNDER PRESSURE FOR HIGHER PRODUCTION?

EXTREME PRESSURE ANTI-SCORING LUBRICANTS

WILL *DEFINITELY* give you fewer rejects, longer runs—NON-GALLING, EVEN at TWENTY *TONS* per square inch!

This most remarkable lubricant has been *proved* in laboratory tests as the *very best* for lathe centers, steady rests, thrust bearings, broaching, swaging, tapping and many new operations you may not think possible today!

Read how big industry has solved reject problems, longer runs at savings up to 81% over commonly used lubricants. Free booklet of testimonials, new uses, new lubricating facts. Write.

CHICAGO MANUFACTURING & DISTRIBUTING COMPANY
1928 W. 46th St. • Suite D-8 • Chicago 9, Ill.

For more details circle **NED-616 H1** on enclosed inquiry slip

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Babbitt *Adjustable* **SPROCKET RIM** *with Chain Guide*
CHANGES THAT DANGER ZONE TO A SAFETY ZONE

enables you to ADD PLANT AREA

If re-aligning equipment will yield more working space, better production, lower costs . . . do it now. Save all space wasted for placing ladders to reach overhead valves. At the same time, convert Danger Zones to Safety Zones. Equip every overhead valve wheel in your plant with Babbitt Adjustable Sprocket Rims with Chain Guides.

- They simplify pipe layout.
- They fit any size valve wheel.
- They are easy to install and operate.
- They operate any valve from the floor.
- They save time and money.
- The first cost is only cost (no maintenance).
- They are packed completely assembled (one to a carton), with easy-to-follow instructions.
- A hot-galvanized rust proof chain is available for all sizes.

Babbitt Adjustable Sprocket Rims with Chain Guide are carried in stock by most mill supply houses. Just phone your mill supply salesman, or contact us direct.

Babbitt STEAM SPECIALTY CO.
16 BABBITT SQUARE, NEW BEDFORD, MASS., U. S. A.

For more details circle **NED-617 H1** on enclosed inquiry slip

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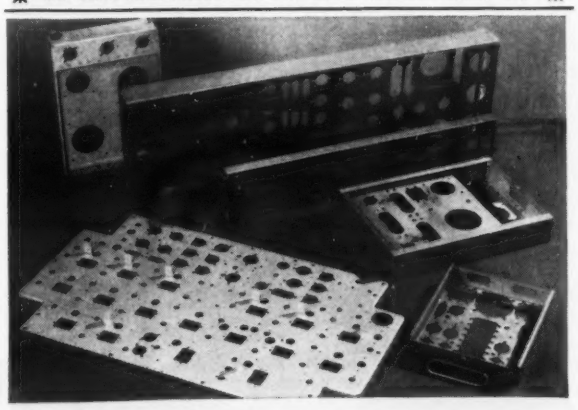

Punch complicated patterns fast with STRIPPIT 15-A Fabricator

Round and shaped holes are quickly and accurately reproduced with the versatile STRIPPIT 15-A Fabricator. Perfect for pilot runs, prototypes and limited production, it eliminates time consuming tool design and die making. Features multiple-stop gauging and quick-change punches and dies. Converts to high speed production unit with STRIPPIT Duplicator. Capacities—up to 3½" diameter holes, up to ¼" sheet material. Write now for full information.

WALES STRIPPIT INC.
227 Buell Road • Akron, New York

For more details circle **NED-618 H1** on enclosed inquiry slip

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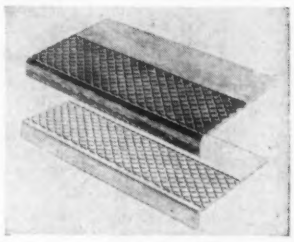
RUBBER STAIR TREAD
smooth molded rear eases cleaning



Rear of this all-rubber safety stair tread is molded smooth to facilitate cleaning. Front stepping area has the 3/16-in. thick W-22 diamond grid tread pattern which affords long service in heavy traffic areas. A 1½-in. tapered lip covers the approach edge. Either square or curved nose treads can be supplied. Maximum tread size is 12½ in. deep by 72 in. wide. Six marbleized colors and black are offered, along with matching risers. • **Melflex Products Co.**, 410 S. Broadway, Akron 8, Ohio.

For more details circle **NED-619 H1** on enclosed inquiry slip

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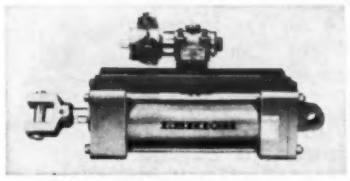
AIR MOTOR
valve mounted on top of cylinder



Minimum linear operating space, instant controlled response, and ease of maintenance result from the Jockey air motor design. Its valve is mounted on top of the cylinder, directly on a manifold which connects the heads. Both ends of the double-acting, self-lubricating cylinder are free, making possible double rod end operation. Unit can be swivel, front flange, foot, or clevis mounted and used in various types of air motor applications. It is available with single and double solenoids, and for momentary and maintained constant operation, in 1½, 2, 3, and 4-in. diameters. Larger sizes can be ordered. • **Lehigh Inc.**, Air Control Div., 1500 Lehigh Dr., Easton, Pa.

For more details circle **NED-620 H1** on enclosed inquiry slip

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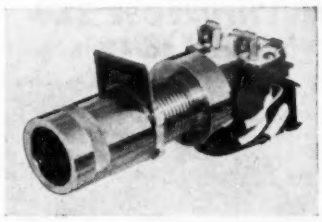
LIGHTED PUSHBUTTON
is weather and explosionproof



Explosionproof lighted pushbutton for heavy-duty Class 1, Group D service in hazardous areas is completely weatherproof. It may be used as either a push-to-test pilot light, or as a combination pushbutton and pilot light. Unit is available in the Nelson line of heavy-duty explosionproof pushbutton enclosures (up to seven units), or as many as 49 separate units can be mounted in a single explosionproof junction box. The 5000-hr, 6.3 v bulb is easily replaced. Unit is offered for 110, 220, or 440 v with normally-open, normally-closed, or normally-open and closed contact arrangements. • **Nelson Electric Mfg. Co.**, Box 5385, Tulsa, Okla.

For more details circle **NED-621 H1** on enclosed inquiry slip

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NOW! Punch both round and shaped holes with one unit

• STRIPPIT "CJ" holders and die bases are keyed to take both round and shaped parts. Yet you pay no more for the "CJ" unit than any competitive round hole unit.

If your current metalworking requirements call for round holes in anything up to ¼" mild steel, the STRIPPIT "CJ" fills the bill. Then if you have to punch obround, square or rectangular holes, simply substitute the proper shaped punches, punch guide and die buttons. They're always in stock. You save the cost of a complete new unit or the inconvenience of returning your existing unit to the factory for keying. Write now for free catalog.

WALES STRIPPIT INC.
227 Buell Road • Akron, New York

For more details circle **NED-622 H1** on enclosed inquiry slip

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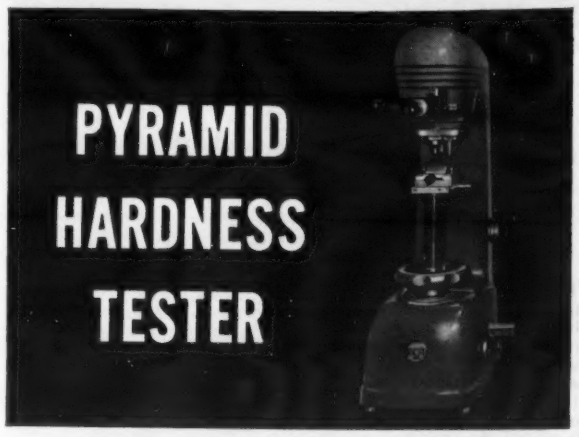

Tests up to 3 times faster than conventional units

Measuring accuracy of one micron (0.001 mm). Indenter and measuring microscope are mounted on same swivel head. Graduated knob selection of any one of five operating loads. Consists of a rugged cast iron frame supporting a specimen table which can be raised or lowered as much as 7⅞". Coarse and fine adjusting knobs are provided.

Write today for complete information, RCA, Department Y-329, 12605 Arnold Avenue, Detroit, Michigan.

The Most Trusted Name in Electronics
RADIO CORPORATION OF AMERICA

For more details circle **NED-623 H1** on enclosed inquiry slip

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NEW AIRETOOL IMPACT WRENCHES *for fast assembly*

Airetool's new air-powered impact wrenches feature rugged design . . . light weight . . . unitized construction . . . ease of handling . . . and no springs or centrifugal force required for operation. They're all one-man, pistol-type wrenches that speed production, reduce down time, cut maintenance costs. Models 625 and 626 have ½" capacity with ½" and ⅝" drive squares. The 400 Series features ¼" capacity with ¼" female hex, ⅜" and ½" square drives.

For free in-plant demonstration, call your Airetool representative ... or, write direct.

AIRETOOL MANUFACTURING COMPANY SPRINGFIELD, OHIO

Representatives in principal cities of the free world

For more details circle **NED-624 H1** on enclosed inquiry slip

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NEW STRIPPIT "BN"
self-contained, self-stripping hole punching unit

• Designed for use *with or without* a guide button. However, for special applications and optimum hole quality, the option of using a fitted guide is still available. Since all holders are keyed, only a punch and die are required for piercing round and shaped holes in material up to 10 ga.

The "BN" unit has many other innovations which will make it your immediate choice. Get the complete story. Write now for free "BN" catalog.

WALES STRIPPIT INC.
227 Buell Road • Akron, New York

For more details circle **NED-625 H1** on enclosed inquiry slip

What should a filter filter?

The true test of a dust filter's efficiency is measured by the size of the particles it collects. Koppers new MODEL K AEROTURN *reverse-air jet* dust filter is virtually 100% efficient on sub-micron particles as small as 0.40μ. The dust filter that can cope with sub-micron particles does a better job for you in these areas:

- *Good Community Relations*—MODEL K AEROTURN meets strictest community codes . . . provides maximum employee protection.
- *Maximum Product Recovery—Extra* product recovery for extra savings, added profits.
- *Important Maintenance Savings*—Less labor, less housekeeping with MODEL K on the job. Also, lower dust content in plant air means longer life for machinery.
- *Lower Air Filter Operating Costs*—New self-adjusting blow rings, proven pressure controlled filter cleaning reduce wear . . . increase filter tube life . . . cut operating costs. Rugged, simplified construction virtually eliminates maintenance, down time.

Write for brochure to KOPPERS COMPANY, INC., Dust Filter Dept., 4308 Scott St., Baltimore 3, Md.

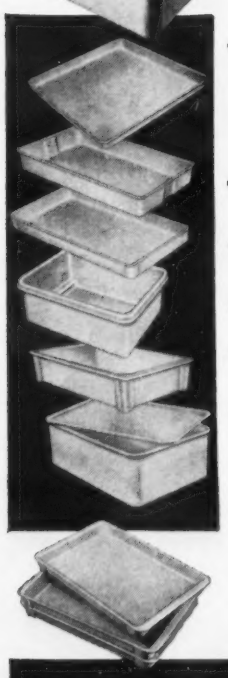
KOPPERS AEROTURN® DUST FILTERS
Engineered Products Sold with Service

For more details circle NED-626 H1 on enclosed inquiry slip

How TOTELINE can cut your costs on parts handling

Improve your handling of small parts and make substantial economies by switching to Toteline tote boxes or trays for handling small parts. Here's how:

- Replace wooden, steel, enameled or fiberboard boxes with Toteline products — made of reinforced molded fiber glass which can't rust, leak, splinter, crack or tear. It's stronger than steel, pound for pound.
- You get a box for handling or storing parts which is light for easy lifting, stacks easily without toppling.
- Boxes and trays can be cleaned by dipping in hot water. There are no corners or crannies for dirt to lodge.
- Toteline trays and boxes have wire reinforced edges for more strength.
- You eliminate maintenance expense. No re-painting, no chipping or cracking.
- Constant tare weight.



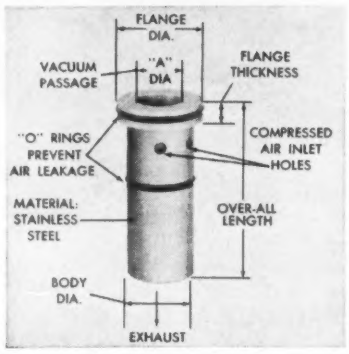
Also available are Toteline fabricated boxes made to your exact specifications in large or small quantities. These custom made boxes have panels of molded fiber glass, up to 3/16 inch thick. Top and bottom frames and corner angles are of strong galvanized steel or aluminum. Casters, hand holes, runners, lids, compartments . . . you name it, we'll make it.

by TOTELINE

MOLDED FIBER GLASS TRAY CO., LINESVILLE, PA.
ONE OF THE MOLDED FIBER GLASS COMPANIES
World's Largest Producer of Reinforced Plastic Trays and Tote Boxes

For more details circle NED-627 H1 on enclosed inquiry slip

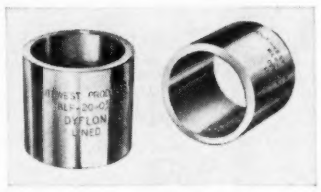
VACUUM SLEEVES
remove shavings and slugs from dies



Installed in a fabricating die under a punch, Bazooka vacuum sleeves have an "A" diameter (see illustration) large enough to pass loose shavings, piercings, notchings, or slugs from the die. Compressed air inlet is drilled in the die to apply air to sleeve ports between O-ring seals to create a vacuum in the die openings. An air pressure regulator or shutoff valve can be installed to minimize air consumption. Air can be turned on just before the punches hit the strip. Sleeves are made with "A" diameters from 0.109 to 0.750 in., with prices from $18.50 to $37.50. Diameters of 0.937 and 1.250 in. are made on special order. • **Air-Vac Engineering Co.**, 33 Old Stratford Rd., Shelton, Conn.

For more details circle NED-628 H1 on enclosed inquiry slip

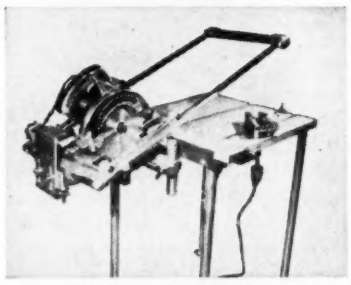
JOURNAL BUSHINGS
for dynamic loads to 25,000 psi



Self-lubricating, plain journal bushings, consisting of a stainless steel housing with a Dyflon plastic alloy insert, will handle dynamic loads to 25,000 psi without galling, fretting, or brinelling. At low rotational speed, static yield loads to 50,000 psi are possible. Life of bushings is practically unlimited at unit loading of 10,000 psi or less, with moderate surface speeds. Bore sizes are 1/4 to 3 in. • **Southwest Products Co.**, 1705 S. Mountain Ave., Monrovia, Calif.

For more details circle NED-629 H1 on enclosed inquiry slip

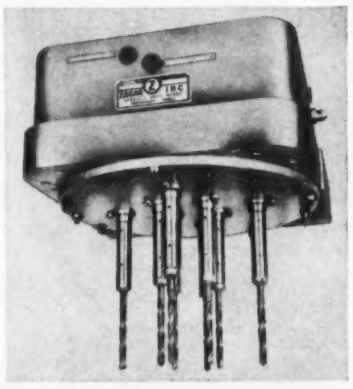
MULTIPURPOSE SAW
uses 6 to 10-in. portable saw



Features of table, radial arm, and portable saws are combined in the table model See-Saw multiple purpose saw. The tilting track, balanced by a 6 to 10-in. portable saw of any make, swings down to clamp the work when the saw is advanced into the cut. Saw may be shifted crosswise in the carriage for ripping, with the carriage locked at any position on the rails. No changes are required for mitering. Tilting for bevel cutting up to 45 degrees is possible. Power control switch is built into the table, two of which may be linked to form a panel cut-off or rip saw with 60 1/2-in. throat capacity. • **Marvin W. Coleman, Inc.**, 23575 Brest Rd., Taylor, Mich.

For more details circle NED-630 H1 on enclosed inquiry slip

DRILL-REAM-TAP SPINDLES
for use in multiple spindle heads



Slip or cartridge type spindles for Zagar multiple spindle gearless heads are simple to insert and remove, but retain their rigidity and accuracy of fixed center drilling. Suited for drilling, reaming, and tapping, they are inserted into a plate that is prebored to accept them in varying patterns. Minimum of spindle extension is required, making an over-all height of 7 3/4 in. possible in the smallest head size. Four standard head sizes cover maximum bolt circle areas of 6 1/2, 10 1/2, 12 1/2, and 15 1/2 in. Spindle sizes are 1 1/4 and 1 1/2 in., with capacity up to 9/16-in. steel. Heads mount on round or flange type quill machines. • **Zagar Inc.**, 23880 Lakeland Blvd., Cleveland 23, Ohio.

For more details circle NED-631 H1 on enclosed inquiry slip

Dependable!

Sutton MOTOR DRIVEN PRESSURE BLOWER

- For exhausting dust, smoke, fumes, vapor...conveying fibers, shavings...cooling, drying, forge blasting.
- One piece housing...self-cleaning wheel...strong lightweight cast aluminum.
- Even, non-pulsating air flow...straight wall design cuts windage—ups efficiency.
- Set direction of discharge in any of 8 positions.
- 100-800 cu. ft. at 1/2" to 6" static pressure.
- 3450 r.p.m. direct connected 60-cycle motor...3 sizes: 1/4, 1/2, 1 H.P.

WRITE FOR LITERATURE AND PRICES

Sutton Manufacturing Corp.
112 W. WILSON AVENUE NORFOLK, VIRGINIA

For more details circle NED-632 H1 on enclosed inquiry slip

SKINNER miniature solenoid valves provide larger valve features

For pneumatic and hydraulic control systems and similar devices, Skinner B Series stainless steel solenoid valves create a new dimension in valve miniaturization. Three-way normally closed valves are now available to the following specifications:

Over-all size	1" dia. x 2 1/16"
Orifice size	3/64" inlet and outlet
Pipe size	1/16" PTF (short dryseal thread) Fittings supplied for adapting to 1/8" tubing
Electrical connections	1/4" NPT Conduit connection or grommet electrical outlet
Voltage	Standard AC and DC voltages
Weight	5 oz.
Maximum operating pressure differential	150 psi
Vacuum	Down to 5 microns

Very soon, 3-way normally open and directional control, 2-way normally open and normally closed, and higher pressure models will be on the market, too. For complete information, contact a Skinner Distributor listed in the Yellow Pages or write us.

SKINNER ELECTRIC VALVES
THE CREST OF QUALITY
SKINNER ELECTRIC VALVE DIVISION
SKINNER PRECISION INDUSTRIES, INC. • NEW BRITAIN, CONNECTICUT, U.S.A.

For more details circle NED-633 H1 on enclosed inquiry slip

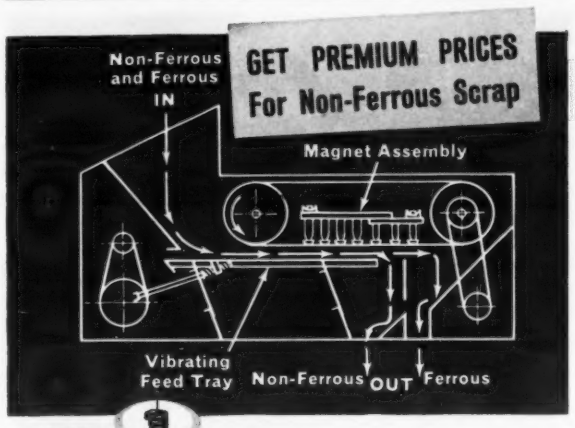
NEW FREE GUIDE

to today's most popular pressure-sensitive tapes

Here's a new, compact handbook you'll want to keep at your fingertips! It gives you up-to-date information about the types of tapes you use most. Indexed for quick reference. Complete with physical characteristics and idea-provoking application data. Send today for your FREE copy of "Mystik Tapes Keep Costs Down!" Write to:

MYSTIK TAPE SELF-STIK
MYSTIK ADHESIVE PRODUCTS, INC.
2635 N. KILDARE AVENUE • CHICAGO 39

For more details circle NED-634 H1 on enclosed inquiry slip



Dings DOES IT FAST and EASY with BNA MAGNETIC CHIP SEPARATOR

Be sure your brass chips or other non-ferrous products are free of iron. Seven permanent magnets insure the dependability of the type BNA Dings Magnetic Chip Separator. Unique agitating principle separates even the smallest particles. Constant magnetic power requires no electricity. Simply charge the hopper, start the belt—separation is fast, fully automatic.

Send for Bulletin B-1604, Dings Magnetic Separator Co., 4758 W. Electric Ave., Milwaukee 46, Wis.

CS-281

For more details circle NED-635 H1 on enclosed inquiry slip

AIR-POWERED

DRILL HEAD

Write for Bulletin BL-22
Address: Dept. NED-861 Bellows-Valvair Akron 9, Ohio

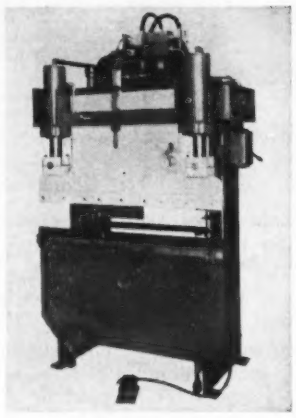
Not much bigger than a carton of cigarettes, this Bellows-Locke Drill Head is the low cost answer to many machining operations in the softer metals, plastics and wood. Drill capacity from No. 80 to 3/16" drill, 2" stroke. Pulley drive. Also available with hydraulic feed control and built-in valve.

992C

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle NED-636 H1 on enclosed inquiry slip

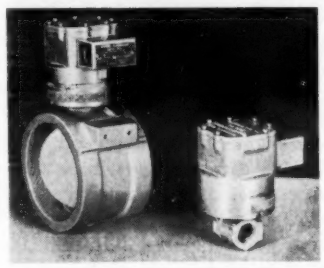
30-TON PRESS BRAKE
stroke adjustable up to 10 in.



Actuated by a pair of electronically controlled hydraulic cylinders, the 30-ton Pedersen press brake affords full tonnage throughout stroke length. Ram can be stopped within ±0.0005 in., bottomed without danger of jamming, inched up or down, or stopped at any point. Ten-inch available stroke is set to match the job and may be reduced to less than 1 in. Point of speed change of the two-speed machine is adjustable for each job. Brake has a front-operated back gage that is accurate within 0.005 in. over an 18-in. range. It can be operated with the ram tilted 1/4 in. in 4 in. in either direction. • **Pedersen Electronics, Inc.,** 3730 Mt. Diablo Blvd., Lafayette, Calif.

For more details circle NED-638 H1 on enclosed inquiry slip

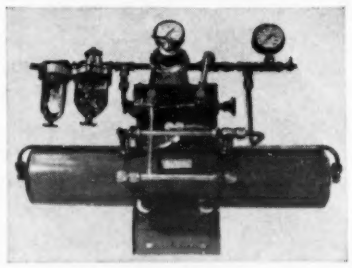
MOTORIZED BUTTERFLY VALVE
in 1 to 6-in. sizes for 5-psi use



Valve shaft of this line of low-cost butterfly air valves is operated directly by the sealed, life - time lubricated, electric power unit. High and low flow positions are quickly set by adjusting the limit switches. Installable in any position, this valve is available in 1 to 6-in. sizes for process and combustion air applications at pressures to 5 psi. • **North American Mfg. Co.,** 4455 E. 71st St., Cleveland 5, Ohio.

For more details circle NED-639 H1 on enclosed inquiry slip

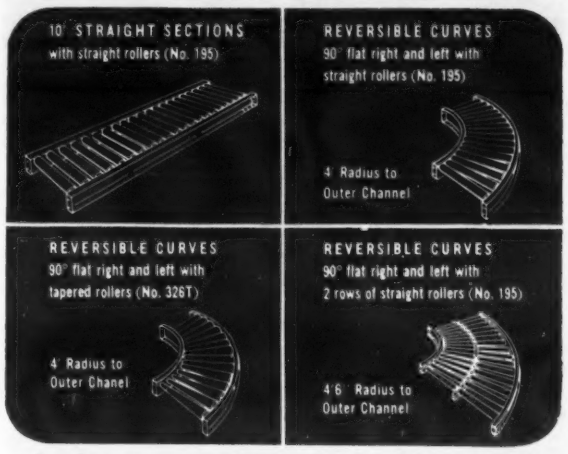
PNEUMATIC BOOSTER PUMP
increases shop air line pressure



Self-contained booster pump for shop air lines is available in two models to produce a maximum output pressure of 300 psi from an 80-psi line. Pump is used at any location on the pneumatic line to get the desired pressure at the point of operation. Fittings, line filters, lubricators, and gages are included in the packaged unit. • **Dayton Rogers Mfg. Co.,** 2824 13th Ave. S., Minneapolis 7, Minn.

For more details circle NED-640 H1 on enclosed inquiry slip

How To Select the Right Roller Conveyor For Your Needs



Just be sure you get the new A-F No. 195 — the best heavy duty roller at a popular price. Write for new A-F General Purpose Roller Conveyor Folder "RC-GP60" filled with helpful information. It's FREE!

A-F Conveyors
Pre-Engineered Conveyor Components
Wheel, Roller, Belt, Trolley
Also Complete Engineered Systems

The Alvey-Ferguson Company 715 Disney St., Cincinnati 9, Ohio

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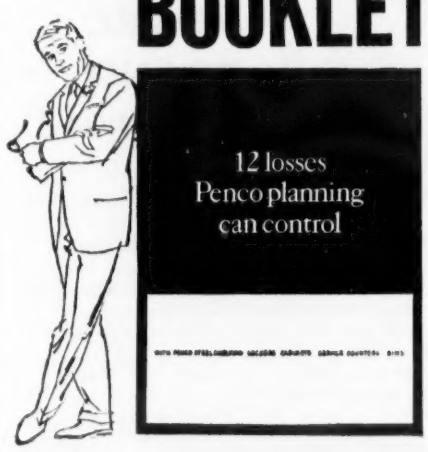
NEW PENCO BOOKLET



How to control 12 costly plant losses with PENCO-PLANNED shelving, lockers, specialties...

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- ☐ Cleaning Costs
- ☐ Stealing
- ☐ Low Employee Morale
- ☐ Poor Inventory Control
- ☐ Production Bottlenecks
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If your company is considering new *shelving, lockers, cabinets, counters,* or *metal storage specialties,* read this Penco Planning Booklet before you buy! Read how to control up to 12 major drains on plant efficiency, profitability.

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Oaks, Pennsylvania

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FABRICATED TO ORDER and from the newest in oil-resistant neoprene-base materials. There are no size limitations. No molds are required.
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• GORTITE reduces way-scrapping and down-time . . .
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Other user benefits, how-to-order forms and application data for all ways, spindles and cross-rails are contained in new bulletin GW-100. For bellows, boots and sleeves ask for AH-3.

A & A Mfg. Company Inc.
712 S. 12th Street
Milwaukee 4, Wisconsin

For more details circle NED-637 H1 on enclosed inquiry slip

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from Distributors

In the popular SCREW-KING SCREW CONVEYOR DRIVES, American Pulley offers you the world's most complete line of shaft-mounted reducers especially designed for screw conveyors. Whatever your application, you'll find a SCREW-KING DRIVE to suit it perfectly: for any screw speed required from 5 to 350 RPM . . . 5:1, 13:1 and 20:1 ratios . . . and in a wide range of HP. SCREW-KING SCREW CONVEYORS DRIVES incorporate all the basic design features found in the highly successful SHAFT-KING DRIVES—performance proved in over 150,000 installations. Wherever you are, you'll find a complete line of SCREW-KING DRIVES available nearby—Screw-King, Trough End and V-Drives from your local American Pulley distributor. See him soon and get the whole "no wait—no waste—no worry" story on the compact, dependable SCREW-KING by American Pulley. 2687

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4200 WISSAHICKON AVENUE • PHILADELPHIA 29, PA.
A division of VAN NORMAN INDUSTRIES INC.

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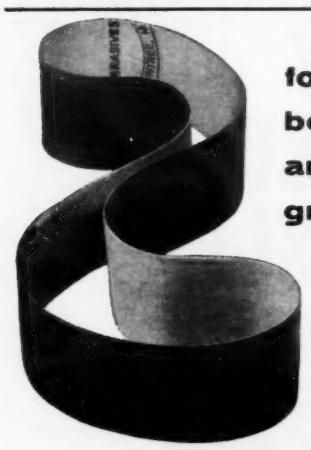

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JEWEL BRAND abrasive belts

Today's modern machines practically think for themselves, but they can't choose the right abrasive belt. That's why experienced men specify Jewel Brand. They know that Jewel Brand abrasive belts give them the right bond, the right backing, the right grain. For a trial run in your plant, call your industrial distributor or write Abrasive Products, Inc., South Braintree 85, Massachusetts.

JEWEL BRAND

COATED ABRASIVES

belts • rolls • sheets • discs • specialties

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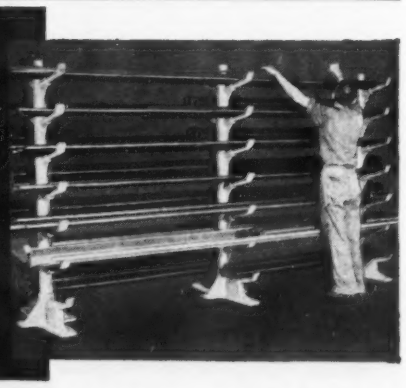
SAVE SPACE • SAVE TIME



Store and remove stock quickly—either by hand, fork truck or overhead crane—using the proved Brown Method for efficient storage. Brown Stock Racks, spaced as required, store more in less space . . . reduce handling from a long end haul to a short lateral movement. Stock is quickly visible for fast selection . . . easily accessible from the sides or ends.

Very low installation costs . . . all components are slip-fitted . . . no bolting or tools needed. Base brackets, trays and other accessories are available to increase usefulness. Both single arm wall racks and double arm racks are available.

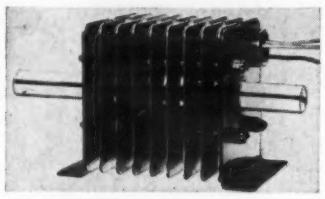
Brown Engineering Co., 129 N. 3rd St., Reading, Pa.

■ Get complete data on Quick-Serve Racks. Write today for bulletin.

BROWN FLEXIBLE STOCK RACKS

For more details circle NED-645 H1 on enclosed inquiry slip

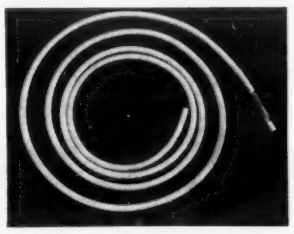
LINEAR ACTUATORS
induction type delivers long stroke



Induction principles are utilized by Polynoid electromechanical linear actuators to deliver a uniform long stroke. Units contain only one moving part, the rod, and can be used to hold under load at any position, or provide reciprocating motion. Output force is directly proportional to input power. Six models with different stroke lengths and output forces are available from stock for evaluation and prototype use. They operate on alternating-current and have foot mountings. Standard stroke is 6 in., although virtually unlimited stroke lengths are feasible in engineered units. • **Skinner Precision Industries, Inc.**, 95 Edgewood Ave., New Britain, Conn.

For more details circle NED-646 H1 on enclosed inquiry slip

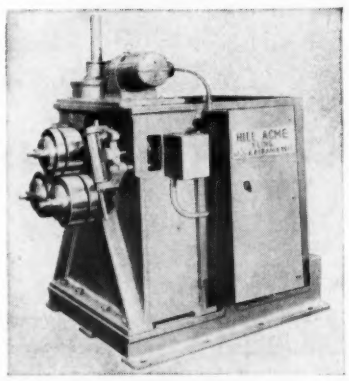
ULTRASONIC PROBE
withstands static pressure of 100 psi



Used with an inexpensive oscilloscope, the VP-10 ultrasonic probe has a wide variety of applications. These include displaying sound levels in ultrasonic cleaning and processing tanks, comparing sound levels over a period of time or in different tanks, locating optimum position and power level for cleaning and processing, and setting similar sound levels with different amounts and types of liquids. The inexpensive, highly accurate unit withstands a static pressure of 100 psi, and can be sterilized at up to 125° C. Output at cavitation is several volts. Excellent display is obtained to over 100 kc per second with useful response to 1 mc per second. • **Vibrasonics, Inc.**, 10 High St., Boston, Mass.

For more details circle NED-647 H1 on enclosed inquiry slip

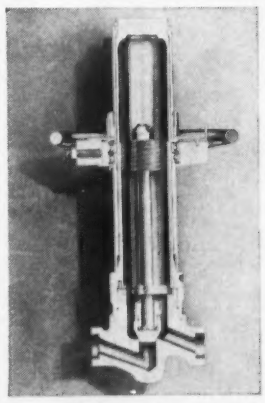
CHANNEL & ANGLE ROLL
model shown rolls at 30 fpm



Redesigned Kling pyramid angle roll which rolls angles, channels, flat bars, and other stock is made in several sizes to accommodate various needs. Self-contained, welded steel units have totally enclosed worm gear drive and power elevating screw. Size ½-A shown has rolling speed of 30 fpm and a capacity of 3½ x 3½ x ⅜-in. in angles, 6 x 1 in. in flat bars, and 6 in. for 13-lb channels. A 10-hp variable speed wound rotor motor is standard. • **Hill Acme Co.**, Kling Div., 1201 Breakwater Ave., Cleveland 2, Ohio.

For more details circle NED-648 H1 on enclosed inquiry slip

GLOBE VALVES
hermetically sealed ½ to 2-in. sizes



Line of hermetically sealed, high temperature globe valves which operate on Harmonic Drive principle provides ½ to 2-in. sizes. Ball, plug, cock, and sliding gate models are available on special order. Valves permit instantaneous changes in setting, have high mechanical advantage, and are designed for high operating temperatures. Normal rating for pressurized water reactor service is 600° F at 2200 psi. Temperature range is extended by incorporating thermal barriers. Uses anticipated include handling of radioactive chemicals, high temperature gases including helium, and light and heavy water. The packless units are offered for manual or motorized operation. • **United Shoe Machinery Corp.**, Harmonic Drive Div., Balch Street, Beverly, Mass.

For more details circle NED-649 H1 on enclosed inquiry slip

your key to the perfect choice of CENTRIFUGAL PUMPS

If you need centrifugal pumps with these characteristics, this reference book is for you: • PRESSURES: to 21 psi in single stage pumps; to 70 psi in multi-stage types. • FLOWS: capacities to 70 gpm in single-stage pumps, to 10 gpm for multi-stage models. • INSTALLATIONS: a wide range of transfer, recirculation, feed, boost and filter-pumping applications.

All told, 50 different models are described in full—and you get a wealth of technical data as well. Write for new catalog 130 now!

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100 SKIFF STREET, HAMDEN, CONN.
WEST COAST OFFICE 4203 Spencer St., Torrance, Calif.

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Fasteners
...the right types are right here!

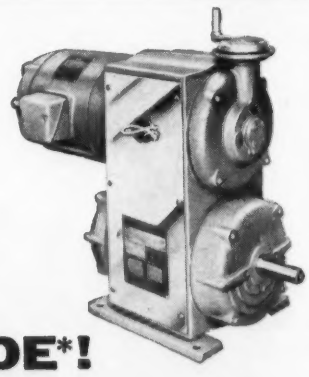
• *More holding power* . . . quality materials and workmanship, exact heat treatments put *extra inner strength* in Mac-it fasteners.

• *Precise threads and key surfaces* . . . uniform, Class 3A threads and clean, full bearing, key surfaces give Mac-its *maximum* torque, *minimum* wear.

• *Complete line* . . . a full range of sizes and types in stock gives you fast service on standard and special fasteners and precision-ground dowel pins.

MAC-IT PARTS COMPANY
Dept. 24, Lancaster, Penna.

For more details circle NED-651 H1 on enclosed inquiry slip



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The mechanical adjustable speed drive that can be adapted in the field!

A wrench and screwdriver are all the tools you need to change the ALLISPEDE DRIVE from an upright to a horizontal drive—for floor, wall, or ceiling mounting. Feet, end brackets, control hand wheel, conduit box, and output shaft can be positioned to fit space requirements.

Ideal for equipment and operations requiring economical but precise adjustable-speed control. It's virtually maintenance-free. Features full four-bearing belt support for longer belt life; oversize cartridge bearings; internally-lubricated splined shaft; corrosion-resistant enclosure. Sizes 1 HP and up; speed variations up to 8:1. Write for Bulletin 3600, The Louis Allis Co., 436 East Stewart St., Milwaukee 1, Wisconsin. ASD-119

*ALLISPEDE is a trademark of The Louis Allis Co.

LOUIS ALLIS

For more details circle NED-652 H1 on enclosed inquiry slip

See How Aeroquip Self-Sealing Couplings Save Time and Money

SEND FOR

Applications for Self-Sealing Couplings in fluid piping systems

A NEW BOOKLET THAT SHOWS BASIC APPLICATIONS OF ONE OF INDUSTRY'S MOST USEFUL TOOLS—THE SELF-SEALING COUPLING

Aeroquip has more than 20 years of experience in the design and manufacture of Self-Sealing Couplings and can supply types to cover the complete range of fluid piping requirements. Write for Aeroquip Bulletin 629 or call the Aeroquip Distributor near you. He's in the "Yellow Pages" under "Hose."

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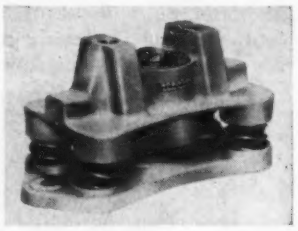
VIBRATION CUSHIONING MOUNT
for generators, pumps, and engines



Heavy - duty, all - metal Model W1047 vibration-shock mount is intended for use with generators, pumps, and diesel or gasoline engines. Mount features two-way action, protecting equipment from external shock and vibration while isolating up to 90 per cent of the vibration created by the equipment itself. Met-L-Flex resilient cushions, fabricated of knitted stainless steel wire, afford long service life. Mount is impervious to oil, water, grease, dirt, solvents, and heat and cold extremes. • **Robinson Technical Products, Inc.**, Robinson Vibrashock Div., Teterboro Air Terminal, Teterboro, N. J.

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COIL SPRINGS
800 new sizes added to line

Addition of 800 new sizes to line of compression and extension coil springs brings to 1500 the total number of sizes available. This includes a complete range of compression sizes in 0.057 and 0.088-in. OD and extension spring sizes in 0.063, 0.094, 0.180, 0.850, and 1.0-in. OD categories. Complete compression stock ranges from 0.057 to 0.720 in. OD to fit standard holes, whereas extension units range from 0.063 through 1.0 in. OD in lengths up to 5 in. Springs are available in music wire or in stainless steel for use at 250 to 500° F. • **Associated Spring Corp.**, 18 Main St., Bristol, Conn.

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NYLON WEBBING SLINGS
protect highly finished materials

Lengths, widths, and capacities to suit the application can be furnished in Liftex nylon webbing slings. They protect such highly finished materials as stainless steel, aluminum, ground tool steel, and drill rod, as well as motors, armature windings, car bodies, and other fragile products. Safety factor is 5 to 1. Slings are resistant to shock loads and have low moisture absorption. • **Liftex Slings, Inc.**, Box 131, Wheeling 2, Ill.

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High Frequency Induction

HEATING EQUIPMENT

For Hardening • Annealing • Soldering
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ELECTRONIC TUBE GENERATORS:
1 kw; 2½ kw; 5 kw; 10 kw; 20 kw; 30 kw; 50 kw; 75 kw; 100 kw.

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PHILADELPHIA 3, PENNSYLVANIA, DEPT. ND-8
In Canada: Sun Oil Company Limited
Toronto and Montreal

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Get the quality you need to do the job right!

SUNOCO GREASES

A complete line of quality greases . . . job-fitted to your requirements by experts, and backed by service that keeps you rolling. Check your Sunoco representative on the Sunoco Greases for the applications below. Or, write direct to Sun Oil Company.

FOR PRESSURE FITTINGS and equipment at normal speeds and temperatures. *Sunoco General Lubricating Greases.* Smooth. Water-resistant. Excellent pumpability.

FOR OPEN-GEAR APPLICATIONS. *Sun Adhesive Greases.* Tacky. Won't drip, squeeze out, or throw off.

FOR SLOW-MOVING, HEAVILY LOADED EQUIPMENT. *Sunoco Heavy-Duty Pressure System Greases.* Also for central systems. Available with EP characteristics added.

FOR ADVERSE WATER OR HUMIDITY CONDITIONS. *Sunoco Rust-Preventive Greases.* Water-resistant. Fortified to prevent rust.

FOR GENERAL-PURPOSE APPLICATIONS where water is not a factor. *Sunoco Short-Fiber Greases.* Heat-resistant, but not water-resistant. Excellent general-purpose greases.

FOR GENERAL-PURPOSE APPLICATIONS where water is a factor. *Sunoco Multi-Purpose Greases.* Water- and heat-resistant. Lithium-based. Available in stabilized or EP type.

For open gears and wire cables. *SUNOCO Gear Compounds.* Black. Adhesive.

SUNOCO QUALITY... THE BEST ECONOMY OF ALL

SUN OIL COMPANY
PHILADELPHIA 3, PENNSYLVANIA, DEPT. ND-8
In Canada: Sun Oil Company Limited
Toronto and Montreal

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Get the quality you need to do the job right!

SUNOCO CUTTING OILS

A full line of quality transparent and emulsifying cutting oils and chemical coolants . . . job-fitted by men who know what they're doing and backed by service that keeps you rolling. Check your Sunoco representative for help on any cutting oil including the following applications. Or write direct to Sun Oil Company.

FOR COOLING, LUBRICATING METALWORKING OPERATIONS. *Sunoco Emulsifying Cutting Oil.* Mixes with water to produce stable white emulsion. Economical. Excellent grinding coolant, too.

FOR MEDIUM DUTY ON AUTOMATIC SCREW MACHINES, cutting non-ferrous metals and free-machining steels. *Sunicut 11-S.* Low viscosity, excellent cooling properties. Ideal for high-speed production.

FOR "JOB SHOP" OPERATIONS where many metals are machined. *Sunicut 5534.* Transparent. Unusually versatile. For medium duty operations. Excellent general-purpose cutting fluid.

FOR PRODUCTION THREADING OF STEEL PIPE. *Sunicut 85.* Transparent sulfurized cutting oil. Contains oiliness additives. Provides smooth movement of collapsible die heads. Excellent for production form grinding.

FOR METAL CUTTING AND GRINDING OPERATIONS. *Sunicool* chemical coolant. Completely soluble in water. Clear. Non-oily. Recommended where excellent metal wetting and extreme pressure are desired.

FOR HIGH-PRESSURE, DEEP HOLE GUN DRILLING OPERATIONS. *Sunicut 416.* Gives exceptionally fine finishes.

SUNOCO QUALITY... THE BEST ECONOMY OF ALL

SUN OIL COMPANY
PHILADELPHIA 3, PENNSYLVANIA, DEPT. ND-8
In Canada: Sun Oil Company Limited
Toronto and Montreal

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Get the quality you need to do the job right!

SUNOCO QUENCHING OILS

A quality line of both paraffinic and naphthenic oils . . . job-fitted by men you can rely on, and backed by service you have a right to expect. Check your Sunoco representative on any quenching oil need, including those below. Or, write direct to Sun Oil Company.

FOR LOW SLUDGING AND HIGH DETERGENCY. Sun Quenching. Oil Light. Well-refined. Naphthenic. Vicosity: 100-115 at 100 F. Reduces maintenance costs by keeping oil coolers and piping free from sludge.

FOR QUENCHING SYSTEMS REQUIRING high flash point oil. Sun Quenching Oil No. 11. Highly refined. Paraffinic. Viscosity: 100-120 SUS at 100 F. High thermal stability. Narrow boiling range. Also suitable for bright quenching from controlled atmosphere furnaces.

FOR MAXIMUM HARDNESS, MINIMUM DISTORTION in heat-treated steel parts. Sunquench 1070. Premium quality. Fast quenching . . . Oxidation-inhibited. High flash. Paraffinic. Viscosity: 85-95 SUS at 100 F.

FOR "HOT OIL" QUENCHING in 200-300 F range. Sunquench 1021. Premium quality. Fast quenching. Oxidation-inhibited. For quenching gears in automotive, farm machinery, and aircraft industries for maximum physical properties with minimum distortion.

FOR "HOT OIL" QUENCHING in 300-400 F range. Sunquench 2125-2145. Premium quality. Additives prolong life at high temperatures, help keep quenched parts clean and sludge-free.

SUNOCO QUALITY... THE BEST ECONOMY OF ALL

SUN OIL COMPANY
PHILADELPHIA 3, PENNSYLVANIA, DEPT. ND-8
In Canada: Sun Oil Company Limited
Toronto and Montreal

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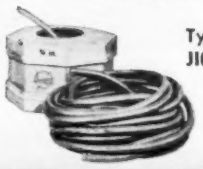
All the installation speed of Flexible Conduit, ...All the protection of Rigid Conduit...with

LIQUATITE®

Extruded Polyvinyl Jacket Molded to Galvanized Flexible Conduit

Complete protection against any and all contamination—impervious to water, oils, chemicals, corrosive atmospheres. Installed in minutes. No more "down-time" due to wiring shorts or burn-outs, no more periodic wiring replacements.

Write for free sample, costs and name of Distributor nearest you.



Type LT JIC APPROVED

Type LA UNDERWRITERS' APPROVED

ELECTRI-FLEX COMPANY

P. O. BOX 128-H • ROSELLE, ILLINOIS

For more details circle NED-663 H1 on enclosed inquiry slip

GREATER GRINDING EFFICIENCY ...LOWER "PER UNIT" COSTS

ALPHA
GRINDING WHEELS

Designed for fast action wherever quick metal removal is required. Their longer cutting life means more metal removed per disc wheel — reducing "per unit" production costs. And, because of this more efficient cutting action, Alpha disc wheels do not cause operator fatigue.

Made from abrasive grain and resinoid bond, Alpha disc wheels are strong and durable. Triple reinforcement provides greater safety while in operation.

Alpha grinding disc wheels are manufactured in 7 and 9 inch diameters in a complete range of grain sizes from 14 to 120.

Write today for full information.

Atlantic Abrasive Corp.
A DIVISION OF ABRASIVE PRODUCTS, INC.
South Braintree 85, Massachusetts

STRAIGHT WHEELS • CYLINDER WHEELS • CUP WHEELS
CONES • PLUGS • MOUNTED WHEELS AND POINTS

For more details circle NED-664 H1 on enclosed inquiry slip

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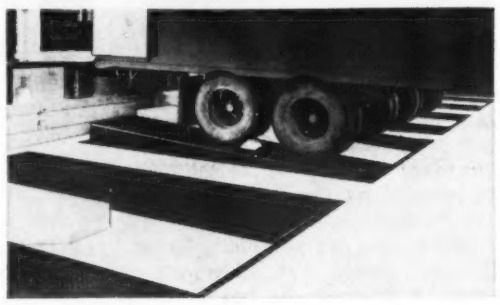
For more details circle NED-665 H1 on enclosed inquiry slip

DOCK TRUCK LEVELER
40,000-lb capacity package offered

Minimum pit without underground piping is among features of the Dockmiser truck leveler package which can be installed by two men in 3 hr. Leveler has a



built-in wheel locator which speeds trailer positioning. Sustaining and net lifting capacity is 40,000 lb. Platforms are available in 10 x 14 and 10 x 16-ft sizes, floored with nonskid steel plate. Entire power system, including rams and power unit, is removable through servicing access opening without entering the pit. • **Autoquip Corp.**, 1140 S. Washtenaw Ave., Chicago 12, Ill.

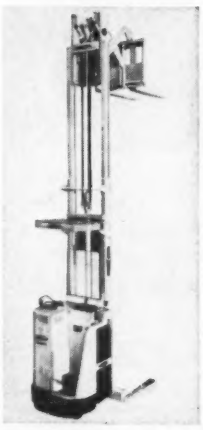
For more details circle NED-666 H1 on enclosed inquiry slip

DATA PROCESSING LABELS
four fan-fold sizes offered

Self-adhering Tabulabel data processing labels for machine accounting and similar operations are available in four fan-fold sizes in addition to established roll-form types. Developed for flat pack form users, these sizes do not require rewinding. They include the 15/16 x 3½-in. Twin-Tabulabels which contain 10,000 labels per package. These consist of two labels across the tape width and permit printing two at a time. The other three sizes, 15/16 x 3½, 7 7/16 x 4, and 15/16 x 5 in., are offered in continuous packs of 5000 and are folded and perforated every 12 in. • **Avery Label Co.**, 1616 S. California Ave., Monrovia, Calif.

For more details circle NED-667 H1 on enclosed inquiry slip

ELECTRIC STACKING TRUCK
operates in 6-ft wide aisles



Fork carriage of the 2000 and 3000-lb capacity Reach-Fork narrow aisle electric truck travels 24 in. forward, beyond the base fork wheels. The redesigned carriage is 12 in. lower to allow ceiling-high stacking and 1½ in. shorter for easier operation in aisles as narrow as 6 ft. The 12 or 24-v truck incorporates a drive wheel assembly which is changed in 30 min. The battery rolls out from either side. Two two-stage and two three-stage mast models are offered, each with 2000 and 3000-lb capacities. Collapsed mast height is 83 in. in all models, and fork elevated height is 128 or 180 in., depending upon type of mast. Floor-protective polyurethane wheels are standard. • **Raymond Corp.**, 41-188 Madison St., Greene, N. Y.

For more details circle NED-668 H1 on enclosed inquiry slip

SHORING JACKS
support up to 9-ton loads

French-made Safety shoring jacks constructed from torsion-free cold-drawn ERW tubes are offered in four models to support loads up to 9 tons. The steel-encased jack is integrated into the lower portion, is protected against dirt, and can be grease packed for operating ease. The 6-in. square end and base plates afford ample support surface and can be adapted to standard scaffold fittings. Jacks are fitted with two handles for easy operation at hand height by one man. • **Newark Ladder & Bracket Co.**, Walnut Avenue, Clark, N. J.

For more details circle NED-669 H1 on enclosed inquiry slip

Using TYGON "ATD" Hot Spray PAINT

TWO COATS DO THE WORK OF FIVE

Using Tygon ATD Hot Spray Vinyl Paint you deposit a smooth, run-free 5 mil thick vinyl film in just two passes—equal to five coats of cold sprayed paint! The finished job has excellent adhesion and outstanding corrosion resistance.

Since two coats do the work of five — and since no thinners are needed — and since reduced overspray materially reduces paint loss . . . your savings in time and materials are substantial!

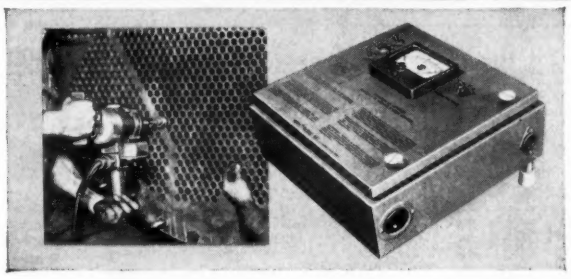
Actually, Hot Spray Painting with Tygon ATD offers cost cutting advantages unequalled by any other method.

Write today for Bulletin ATD-9

PLASTICS AND SYNTHETICS DIVISION
U. S. STONEWARE
AKRON 9, OHIO

206F

For more details circle NED-670 H1 on enclosed inquiry slip



Your Motor + Wiedeke Torque Control = Increased Tube Rolling Production

Save the cost of a new motor! New Torque Control Instrument for rolling ¼" through 4½" tubes in boilers, condensers and similar heat transfer vessels—operates with any Universal Reversible Electric Tube Rolling Tapper or Motor. Adjustable time cycle matches operator's dexterity.

WRITE TODAY FOR DETAILS AND BULLETIN AC-7A

The Gustav WIEDEKE Company
Dayton 1, Ohio

For more details circle NED-671 H1 on enclosed inquiry slip

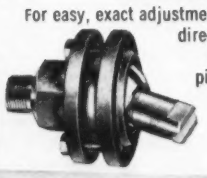
SPLIT-EYELET CONNECTORS

For faster, easier connection of spray nozzles, branch lines and equipment to piping and tubing carrying liquids, gases or air up to 250 psi. Write for Bulletin 93.

FOR BETTER PERFORMANCE

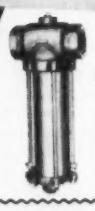
SPRAY NOZZLE ACCESSORIES

ADJUSTABLE JOINTS



For easy, exact adjustment of spray direction. Made in size for ¼" to 2½" pipe in brass, steel and stainless steel. Write for Bulletin 97.

...EASIER INSTALLATION



LINE STRAINERS

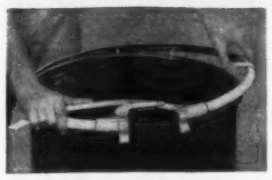
Special non-collapsing screen design for pressures up to 125 psi, for all pipe lines from ¼" to 6" size. Also high pressure strainers for up to 5,000 psi service. Write for Bulletin 94.

FOR COMPLETE SPRAY NOZZLE INFORMATION WRITE FOR CATALOG 24

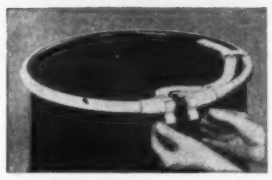
SPRAYING SYSTEMS CO.
3211 RANDOLPH STREET • BELLWOOD, ILL.

For more details circle NED-672 H1 on enclosed inquiry slip

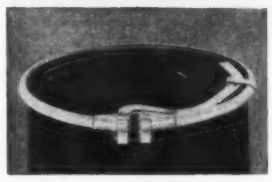
NEW LEVER-BOLT RING



1. Apply ring to drum.



2. Clamp lever in place, insert bolt and apply nut.



3. Tighten bolt for finished job.

Provides air-tight closure for full removable-head drums

Just 3 quick-easy steps . . . and this new Lever-Bolt ring seals the drum, makes an air-tight closure, and provides double protection. Two independent locking means are provided: (1) the lever-lock, for a quick and generally adequate **reusable** closure, and (2) the nut-and-bolt, providing a positive seal in transit.

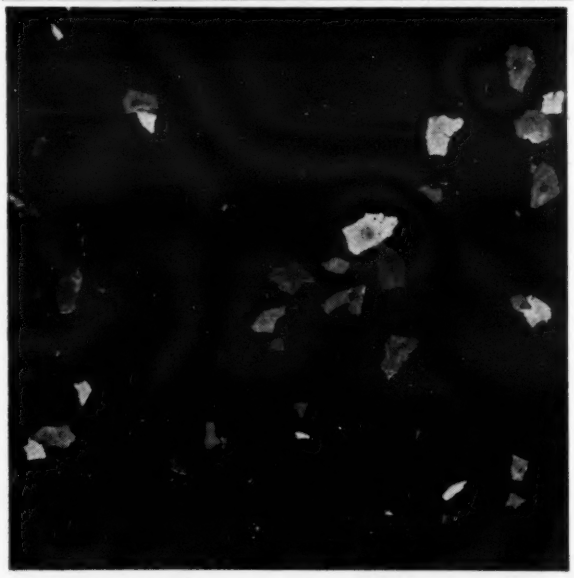
Gain simplicity, speed and better protection against damage and shipping losses. Specify Drum Parts LEVER-LOCK Rings for YOUR full removable-head drums. **Additional cost is amazingly low.**

Consult your drum manufacturer . . . or write for NEW CATALOG containing descriptive details on all Drum Parts closure devices. Send for your copy today.

DRUM PARTS, INC.

10311 Meech Ave., Cleveland 5, Ohio

▲ For more details circle **NED-673 H1** on enclosed inquiry slip ▲



This is Mastipave . . . world's toughest low-cost floor covering. It stands up to heavy foot and wheel traffic. Cleans easily. Lasts for decades. Comes plain, decorated and with non-slip surface. Free folder is yours for the writing:

DEPARTMENT NE PABCO FLOOR COVERING DIVISION, FIBREBOARD PAPER PRODUCTS CORPORATION, 475 BRANNAN STREET, SAN FRANCISCO, CALIFORNIA

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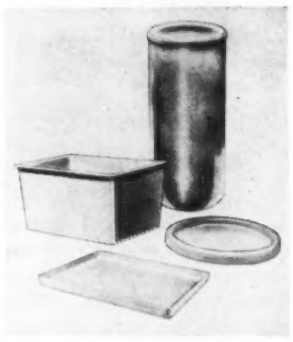
GLASS FIBER CONTAINERS safely handle liquids and solids



Glass fiber tote boxes, trays, and cylindrical tanks are among containers available in various shapes and sizes for safe handling of liquids and solids. Tote boxes and trays feature seamless construction and extra wall thickness in areas subject to stress, and wear. They are light in weight, fire-retardant, corrosion resistant, and have reinforced rims and molded-in handles. Centrifugally-molded tanks have nonporous walls, are shatterproof, and resist rupture under stress and impact. They are offered in 30 or 40-gal capacities and in five colors. Nonstandard 25 to 100-gal sizes for pressure and nonpressure uses are available. Bottom edges of tanks will accommodate leveling feet. • **White Sewing Machine Corp.**, Apex Reinforced Fibre-Glass Div., Washington & Elm Streets, Cleveland 13, Ohio.

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INDUSTRIAL THERMOCOUPLES particularly suited for plastics

Cost reductions as much as 67 per cent are reported for thermocouples as a result of construction which adapts them for a particular condition. Design is applicable to base metal, noble metal, and other thermocouples. Plastics industry types have sensitive thermocouple wire, iron-constantan elements, and choice of two steel protection tubes. • **Glesco Electronics, Inc.**, 1800 Broadway, Rockford, Ill.

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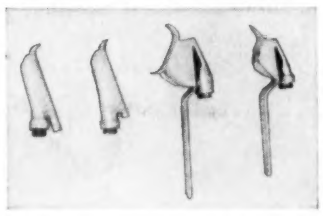
PLASTICS SEALING TOOLS handle round, flat, and corner rods



High and medium speed welding and sealing of polyethylene, rigid PVC, plasticized tank linings, and other thermoplastic materials are performed readily with the KS Series of tools. They are interchangeable when used with various models of plastics welding equipment. Made of stainless steel, they handle round weld rods in common sizes as well as flat and corner strips for tank linings. Tools maintain a balance of heat and pressure automatically. • **Kamweld Products Co.**, 932R Washington St., Norwood, Mass.

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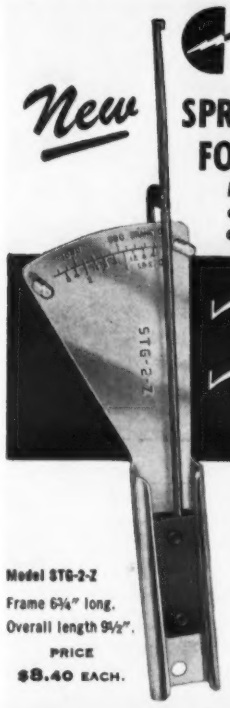
Neuses

New

SPRING TENSION GAUGE FOR HEAVIER SPRINGS

Range to 2¾ lbs. in 4 oz. divisions, and 0 to 1200 grams in 100 gram divisions.



- For determining, checking or rectifying spring tensions.
- Accuracy remains constant — a dependable standard of measurement.

Model STG-2-2
Frame 6¾" long.
Overall length 9½".
PRICE $8.40 EACH.

Scale inscribed on front and back of frame. Can be used vertically, horizontally, left to right, or right to left. Satin chrome steel frame with clock-spring indicator. Sturdy, for rugged use. Small enough for field use. Furnished in sturdy snap vinyl carrying case. Other gauges in different ranges available.

Write for bulletin.

P. K. NEUSES, INC.

Small Tools for the Communication Industry

511-31 N. DWYER ST. • ARLINGTON HEIGHTS, ILL.

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Take your pick... 1, 2 or 3 normally open, normally closed electrical circuits

What does your limit switching application call for . . . one, two or three normally open, normally closed electrical circuits? Whatever it is, one of these National Acme SL "Machine Life" Limit Switches . . . the SL2, the SL3 or the SL4 . . . will meet your precise requirement. And, every SL offers . . . a variety of cam arrangements for extreme operating flexibility . . . ample overtravel (67°) and by-pass (90°) . . . light operating pressure (10½ lbs. at 1½" radius). Also available . . . the SLS 2, 3 or 4 featuring "hi-shock" sliding contacts; particularly suitable for drop forge, punch press and other heavy equipment application. Call, write or wire for complete information.

National Acme

THE NATIONAL ACME COMPANY 182 E. 131st STREET CLEVELAND 8, OHIO

Sales Offices: Newark 2, N. J., Chicago 6, Ill., Detroit 27, Mich.

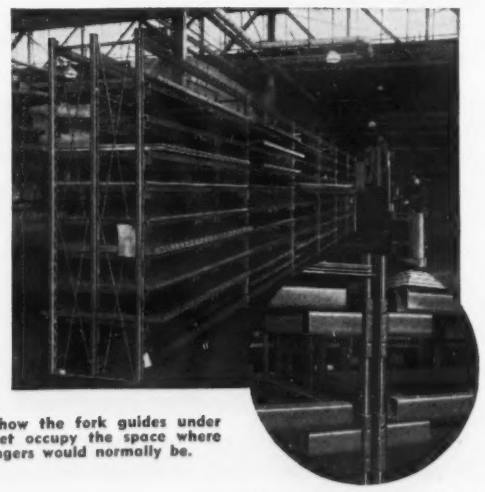
▲ For more details circle **NED-680 H1** on enclosed inquiry slip ▲

another *American* "first"... an innovation in

adjustable STORAGE RACKS

for sheet metal and other flat materials

send today for catalog!



Notice how the fork guides under the pallet occupy the space where the stringers would normally be.

Here's a rack that's a must for all warehouses that store flat sheet materials. By eliminating the full-length stringers (except at the top and bottom levels where they serve as tie bars), valuable space is saved, thereby providing more productive storage space in the same area. The material is stored on a special pallet made of rugged, continuous welded square tubing. The pallet is supported on short non-bolting cantilever arms that can easily and quickly be raised to any level, on SLIDE-N-LOCK posts (see inset). Each upright frame has 3 posts so that the special tubular pallet is supported at 6 places, assuring maximum stability and a greater safety factor. Another American money-saving, space-saving contribution to modern, efficient warehousing.

AMERICAN METAL PRODUCTS CO.

STORAGE RACK DIVISION

5977 Linsdale Ave. amp® **Detroit 4, Michigan**

Manufactured in Canada by Sunshine-Waterloo Co., Ltd., Waterloo, Ontario

▲ For more details circle **NED-675 H1** on enclosed inquiry slip ▲

one stands out!

AERO-SEAL JET®
WORM DRIVE HOSE CLAMP

Clamps may come in an assortment of shapes and mechanisms in an effort to duplicate some of the features of the AERO-SEAL JET, but one still stands out, and that is the AERO-SEAL JET itself.

This is because it provides all of the advantages of precision worm drive, plus almost instantaneous installation or removal. Bands and housings are of 302-18-8 stainless steel. All stainless if desired. Regular AERO-SEAL design also available.

Be sure to get Genuine AERO-SEALS. Ask your supply house.

BREEZE CORPORATIONS, INC.
700 Liberty Ave., Union, N.J. • Cable Address: Breeze, Union, N.J.

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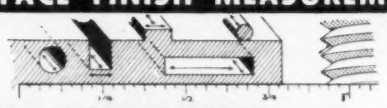
SURFACE FINISH MEASUREMENT



SMALL SURFACE AREAS

All of the above areas are too small to permit the use of conventional skid type surface finish pickups. On limited areas of this type, there is not enough room to trace with both the skid and stylus. The new Cleveland Precision Slide eliminates the necessity of the skid contacting the part surface. Only the diamond stylus contacts the part surface. The accurate movement of the slide furnishes the measurement reference normally provided by the skid.

Typical surfaces which can be explored by skidless techniques include the following:

Lands	— .005" or wider
Holes	— .060" I.D. or larger
Slots	— .080" x .080" or larger
Groove Bottoms	— .375" deep x 5/64 wide
Hole Bottoms	— .375" deep x 5/64 I.D.
Screw Threads	
Gear Teeth	

New approaches in pickup design and the Precision Slide make these measurements a simple matter. The equipment is comparatively inexpensive. Existing Cleveland Roughness Meters can be used for skidless measurements with the addition of the Precision Slide, Model BK-3922 F.

The Cleveland Roughness Meter meets the requirements of the ASA B46.1-1955 and all industrial and government standards.

Write for a demonstration or full details on the Cleveland Roughness Meter.

Cleveland INSTRUMENT COMPANY
A SUBSIDIARY OF THE BENDIX CORPORATION
6220 East Schaaf Road • Cleveland 31, Ohio

For more details circle **NED-682 H1** on enclosed inquiry slip

MOLYKOTE® M-88
BONDED LUBRICANT COATING

FREE SAMPLE!

Handy Applicator Bottle • Enough Lubricant to coat parts for evaluation • Absolutely FREE! • New industrial lubricating technique • Simply apply like a paint • Allow to air dry • Provides 100% safety against galling and seizing • Smooth, protective lubricating film bonds to most surfaces • Lifetime lubrication in many applications • Mail the coupon today.

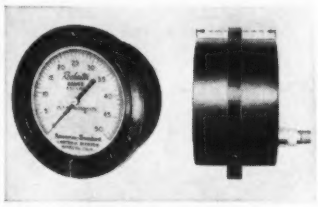
THE ALPHA-MOLYKOTE CORP.
65 HARVARD AVENUE • STAMFORD, CONN.

The Alpha-Molykote Corp., 65 Harvard Ave., Stamford, Conn.
Please send me a FREE SAMPLE of MOLYKOTE M-88. NED-8

Name _____ Title _____
Company _____
Address _____
City _____ Zone _____ State _____

For more details circle **NED-683 H1** on enclosed inquiry slip

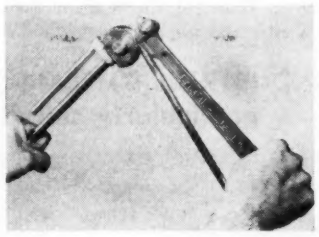
HIGH PRESSURE GAGE
for hydraulic and pneumatic service



Continued accuracy of pressure measurement under extreme conditions of overload pressures, high vibration, shock, or line pulsation is provided by the Series 6925 high pressure pneumatic and hydraulic gage. On applications up to 10,000 psi, it has an accuracy of ±1/4 per cent. Hysteresis, friction, and backlash are below readable limits. The 4½-in. dial gage has no moving parts, and its pointer is connected directly to the pressure element, a helical wound Inconel-X Bourdon tube. Case is made of anodized aluminum. • **American-Standard Controls Div.**, 5900 Trumbull Ave., Detroit 8, Mich.

For more details circle **NED-684 H1** on enclosed inquiry slip

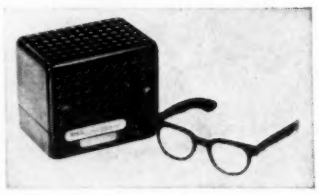
TUBING BENDERS
six models for 3/16 to ½-in. tube



Soft or hard copper, aluminum, brass, and certain sizes of stainless steel tubing can be bent with Models 293 to 298 tubing benders. Steel forming shoes and rolls prevent marring and deformation during bending. Tools are easy to use on tubing that is already installed. They can also be removed at any point in the bend. Graduated calibration marks on the forming rolls facilitate bending angles up to 180 degrees. Tubing of 3/16, 1/4, 5/16, 3/8, 7/16, and ½-in. OD is accommodated by the six sizes. Radius of bend varies with the size from 7/16 to 1½ in. • **Ridge Tool Co.**, Box 670, Elyria, Ohio.

For more details circle **NED-685 H1** on enclosed inquiry slip

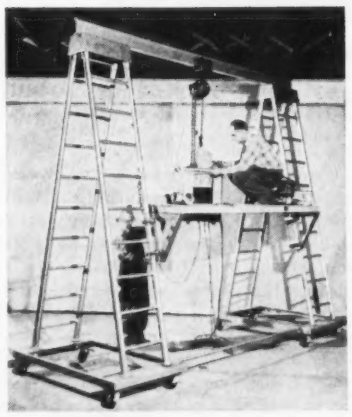
SYMBOL GENERATORS
combine straight and curved lines



All digits, letters, and many symbols are formed by the Curviline solid-state character generators by combining continuous straight and curved lines. Units form characters on any cathode ray tube display at rates up to 200,000 symbols per second. Curved lines prevent confusion between similar letters and digits, such as B and 8, and 5 and S. Series C36000 is packaged in a 7 x 6 x 4-in. housing for use where space is limited. Series CL36000 is packaged in standard 5¼-in. relay rack panel and is intended for use as a computer or laboratory module. Because of their small size, application possibilities include evaluated data displays, simultators and other CRT displays. • **RMS Associates, Inc.**, 805 Mamaroneck Ave., Mamaroneck, N. Y.

For more details circle **NED-686 H1** on enclosed inquiry slip

PORTABLE CRANE
for maintenance, repair and handling



Materials handling as well as general maintenance and repair work can be done with the VersaCrane which consists of several independent units that can be used individually when desired. It comprises two platform trucks with locking casters, four independent ladders, an I-beam, and a platform scaffold which can be raised or lowered with all equipment on it. Two of the ladders mount on each truck and connect at the top. The I-beam, with the two rolling ladders and a 1-ton McGuire chain block, converts the unit into a gantry crane. Grip-strut safety platform for mounting on the ladders adjusts from 32 in. to 12 ft 2 in. above the floor. • **W. B. McGuire Engineering Co.**, Box 265, Champlain, N. Y.

For more details circle **NED-687 H1** on enclosed inquiry slip

Smooth, quiet, dependable operation of Elliott C-W integral h.p. motors is the result of good design, high quality materials and extraordinarily precise manufacturing methods.

Send for bulletin *The Fine Art of Building Better Motors.*

W1-6

ELLIOTT COMPANY
GENERAL OFFICES: JEANNETTE, PENNSYLVANIA
PLANTS: Jeannette and Ridgway, Pa.; Springfield, Ohio

For more details circle **NED-688 H1** on enclosed inquiry slip

LEAD TIME CUT
2,300% ON CAMS

ENGINEERED AND PRODUCED BY EONIC
World's Leading CAM Manufacturers

Two Dimensional Cam and Gear made from one piece of bar stock

Three Dimensional Cam—over 12,000 calculations

EONIC Inc. Engineers of Precision

Write For Bulletin Number 105

464 E. Hollywood • Detroit 3, Michigan

For more details circle **NED-689 H1** on enclosed inquiry slip

NEW ABRASIVE BELT SWING FRAME GRINDER

CURTIS MODEL PB-A

Adaptable to a wide variety of operations in large or small plants, can be used as a portable unit and brought to heavy work, or rigidly mounted for many grinding and polishing operations. 10 or 7½ hp. motor, heavy-duty contact wheel design, center post tracking mechanism, automatic belt tensioning, precision roller bearings. For additional information, write to: Curtis Machine Division, The Carborundum Company, Niagara Falls, New York.

CARBORUNDUM

For more details circle **NED-690 H1** on enclosed inquiry slip

Alcoa Alloy 6262-T9*

■ Higher yield strength than alloys 2011, 2017 and 2024 ■ Better corrosion resistance than alloys 2011, 2017 and 2024 ■ Better machinability and higher strength than alloy 6061

See your nearest Alcoa distributor or jobber—he carries a full line of Alcoa® Screw Machine Stock alloys for every application.

*Patent applied for

ALCOA ALUMINUM
SCREW MACHINE STOCK

For more details circle NED-691 H1 on enclosed inquiry slip

Alcoa Aluminum Fasteners

■ Any type; any size; made from high-strength, heat-treated alloys ■ Assemble easily, never seize or bind, because of precision threading and rigid inspection

Your local Alcoa distributor or jobber stocks huge inventory—can make quick delivery. Check your Yellow Pages under "Aluminum."

ALCOA ALUMINUM
FASTENERS

For more details circle NED-692 H1 on enclosed inquiry slip

Alcoa Aluminum Abrasive Tread Plate

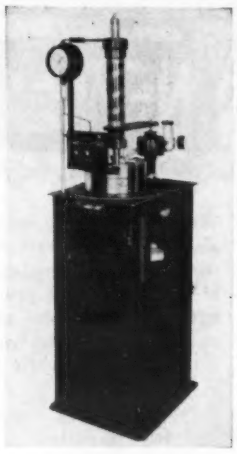
■ Wear uncovers additional abrasive particles—actually *renews* the surface ■ Slip-proof on wet, oily or greasy floors ■ Light weight—installs easier, faster ■ Corrosion resistant—never needs maintenance

Call your local Alcoa distributor.

ALCOA ALUMINUM
ABRASIVE TREAD PLATE

For more details circle NED-693 H1 on enclosed inquiry slip

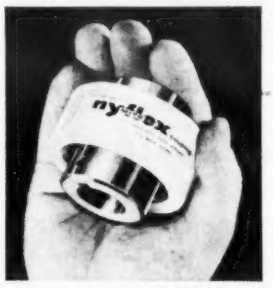
AUTOCLAVES are agitated magnetically



High speed rotary agitation in these rotary-stirred autoclaves designed for high pressure work is effected by magnetic attraction between external driver magnets and internal driven magnets encasing the rotor shaft. Agitator shaft is completely sealed in the packless unit, eliminating leakage, the need for lubricants, and frictional wear on the shaft. • **Autoclave Engineers, Inc.**, 2956 W. 22nd St., Erie, Pa.

For more details circle NED-694 H1 on enclosed inquiry slip

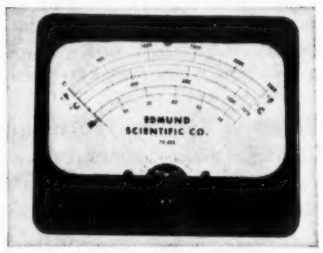
FLEXIBLE COUPLING gear type has 2⅞-in. OD



Speeds up to 5000 rpm and misalignment of ±3 degrees are accommodated by the Mite nylon sleeve flexible gear coupling. It complements the size range of the standard Nyflex coupling with its 2⅞-in. OD and 2⅜-in. over-all length. Coupling, with its two zinc die-cast hubs, nylon sleeve, and two Spirolox retaining rings, weighs 14 oz. It requires no lubrication, and can run in a vertical or horizontal position. Eight finished bore sizes from 0.500 to 1.125 in. and a ⅜-in. rough bore are available. • **Sier-Bath Gear & Pump Co.**, Flexible Coupling Div., 9242 Hudson Blvd., North Bergen, N. J.

For more details circle NED-695 H1 on enclosed inquiry slip

THREE-SCALE PYROMETER also usable as millivolt meter



High internal resistance of this three-scale pyrometer assures sensitivity to small variances in temperature. It is virtually unaffected by different thermocouple lengths and can be used with almost all base metal thermocouples. Instrument is also usable as a millivolt meter for many nonpyrometric applications. Mounted in a 5.58 x 4-in. case, it has a 3½-in. long scale and large markings on 32 to 2400° F and 0 to 1370° C scales for chromel-alumel Type K thermocouples and a 0 to 50 mv scale. Temperatures are read directly from the scales with Type K thermocouples, or easily converted with tables when other types of thermocouples are used. Price is $26. • **Edmund Scientific Co.**, 180 E. Gloucester Pike, Barrington 50, N. J.

For more details circle NED-696 H1 on enclosed inquiry slip

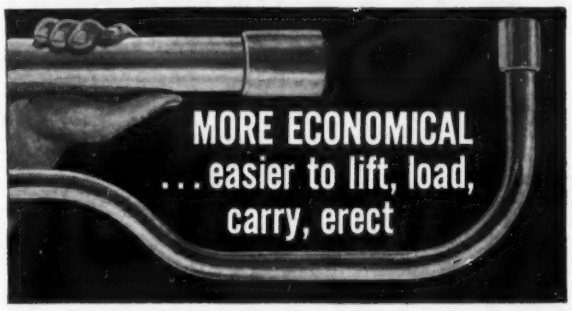
Alcoa Aluminum Joining Materials

■ Welding—IG (Inert Gas) Welding Electrode, Coiled Welding Rod, Straight-Length Welding Rod, Welding Flux ■ Brazing—Sheet, Coiled Brazing Rod, Straight-Length Brazing Rods, Brazing Flux ■ Soldering—Sheet, Solder, Solder Flux

Alcoa distributors and jobbers can give you information on joining aluminum. Additional technical assistance can be obtained from your nearest Alcoa sales office.

ALCOA ALUMINUM
WELDING MATERIALS

For more details circle NED-697 H1 on enclosed inquiry slip



Alcoa Aluminum Electrical Rigid Conduit*

■ Light weight—weighs only ⅓ as much as steel conduit ■ Easy to cut, bend and thread—without special tools ■ Corrosion resistant—no maintenance under normal service conditions ■ Nonsparking for safer installations ■ Competitive in price for initial savings as well as future savings

Available from local distributor or jobber stocks for fast, dependable delivery.

*Approved by Underwriters' Laboratories, Inc.

ALCOA
ROME CABLE
DIVISION

For more details circle NED-698 H1 on enclosed inquiry slip

Quick delivery of any Alcoa Aluminum product on this page from your local Alcoa distributor or jobber!

- Prompt Service
- Fully Stocked Warehouses
- Complete Technical Information

Check Your Yellow Pages
Under "Aluminum"
OR
Mail Coupon for Additional Information

ALUMINUM COMPANY OF AMERICA
859-H Alcoa Building, Pittsburgh 19, Pa.

Please send me the following:

- ☐ ALCOA ALLOY 6262-T9 SCREW MACHINE STOCK FOLDER
- ☐ ALCOA ALUMINUM FASTENERS BROCHURE AND SAMPLES
- ☐ ALCOA ALUMINUM ABRASIVE TREAD PLATE BROCHURE AND SAMPLE
- ☐ ALCOA ALUMINUM ELECTRICAL RIGID CONDUIT BROCHURE
- ☐ ALCOA WELDING AND BRAZING METAL SELECTION CHART
- ☐ "HOW TO DESIGN WELDED ALUMINUM STRUCTURES"

Name _____
Title _____
Company _____
Street Address _____
City _____ Zone _____ State _____

ALCOA ALUMINUM
Distributed Nationally... To Better Serve Your Immediate Needs

Now- ONE AMMETER for both AC and DC

TONG TEST is the only ammeter of its type that measures both alternating and direct current. Get instant readings, without shutting down equipment, by merely snapping tongs around electrical conductor. Interchangeable ranges up to 1000 amperes, impossible to read wrong scale. Eight types of TONG TEST available for conductors up to 3⅞" diameter or bus bars up to 4½" x ½".

AC-DC VOLTMETER

Reads up to 600 volts, AC or DC. Convenient, accurate, compact. Model UV-1 $25.00 complete with voltage leads.

Write for Catalog ND-400

COLUMBIA ELECTRIC MFG. CO.
4525 Hamilton Ave.
CLEVELAND 14, OHIO

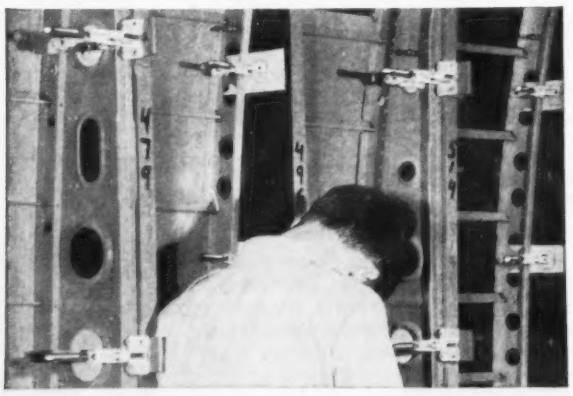
▲ For more details circle NED-699 H1 on enclosed inquiry slip ▲

YOU CAN HAVE CONTROLLED HOLDING POWER with DE-STA-CO TOGGLE CLAMPS

Pressure-positive De-Sta-Co Clamp provides stability while lenses are cemented to light housings.

A MODEL FOR EVERY APPLICATION

Whatever needs to be held securely—by forces of fractions of pounds or multiple of tons—you can have absolute control with a De-Sta-Co clamp. Miniature models are available for extra light jobs—rugged, hefty models for heavy duty jobs—plunger action models for push or pull jobs—air-hydraulic operated models for multiple, split-second remote control operation. Select the model to fit the job at hand, controlled holding power is yours—with De-Sta-Co.



De-Sta-Co Toggle Action Clamps quickly and accurately position ribs of an aircraft fuselage while skin is applied.

HOLDING PRESSURES FROM MERE OUNCES TO 16,000 POUNDS
FOR DETAILS—ASK FOR NEW 36-PAGE CATALOG

TOGGLE CLAMPS · SHIMS AND SPACERS · DE-STA-CO · STAMPINGS · BLOWER HOUSINGS

DETROIT STAMPING COMPANY
340 MIDLAND AVENUE · DETROIT 3, MICHIGAN

▲ For more details circle NED-700 H1 on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

These catalogs have been selected on the basis of the completeness of their data and their value to the needs of our reader-audience. They are sent to you by the manufacturer or distributor when you circle the proper item number on a self-mailing inquiry slip in the issue. When a price is mentioned or a letter-head request is indicated, you should write to the company.

Steel for Missiles

Problems in the development and application of ultra-high-strength metals for America's missile program are stressed in textbook, "High-Strength Steels for the Missile Industry." It is a report on the symposium at the 1960 Golden Gate Metals Conference. Fourteen authors present their findings in various phases in this work which is edited by H. T. Sumison of Lockheed Missiles & Space Division. Book has 200 illustrations, tables, charts, and graphs, and contains 276 pages. Price is $12. Published by American Society for Metals, Metals Park, Novelty, Ohio.

▲ For more details circle NED-701 H1 on enclosed inquiry slip ▲

Uses for Winch-Hoists

FREE City Engineering Co.—Thirteen ways to use the new My-te electric winch-hoist are detailed in 6-page Bulletin M-61. This unit can lift 2500 lb and pull 5000 lb with a double line. It is available in 6, 12, and 110-v models for lifting, hoisting, pulling, drilling, and other handling operations.

▲ For more details circle NED-702 H1 on enclosed inquiry slip ▲

Pre-Engineered Industrial Buildings

FREE Parkersburg Rig & Reel Co., Building Div.—6-page Brochure BD-260 describes a line of pre-engineered buildings which range in width from 6 ft 8 in. to 28 ft, in height from 7 to 14 ft, and in any length in increments of 16 in. They are adaptable for service and utility purposes, storage, isolated manufacturing operations, branch offices, and many other purposes.

▲ For more details circle NED-703 H1 on enclosed inquiry slip ▲

Localized Plating Technique

FREE Sifco Metachemical, Inc.—Typical selective plating jobs which can be handled with the Dalic plating process which employs concentrated plating solutions held in absorbent materials attached to portable electrodes to deposit metals without using immersion tanks are described in 8-page bulletin. Techniques used are detailed.

▲ For more details circle NED-704 H1 on enclosed inquiry slip ▲

Automatic Handling Equipment

FREE General Mills, Inc. — 24-page guide book "Automatic Handling Equipment" discusses the design and use of General Mills' remote handling equipment which answers the problems of nuclear, space, underseas, and industrial environments. Specs are cited for six standard Mechanical Arms.

▲ For more details circle NED-705 H1 on enclosed inquiry slip ▲

Tool & Accessory Handbook

FREE Armstrong Bros. Tool Co.—132-page illustrated General Catalog 700 shows and describes thousands of Armstrong tools, 330 of which have not been listed previously. Information is given on such items as tool holders, set-up and hold-down tools, tool bits, machine shop specialties, wrenches, sockets, wrench sets, hand tools, and pipe tools. List prices are given.

▲ For more details circle NED-706 H1 on enclosed inquiry slip ▲

Material Handling Manual

FREE Globe Hoist Co., Industrial Lift Div.—"Case Studies in Modern Lift-portation" is a 24-page material handling manual which discusses 59 ways to lift, load, position, and machine feed efficiently. Taken from actual plant installations, studies show how hydraulic power can be used to cut handling costs, increase production, and reduce worker fatigue.

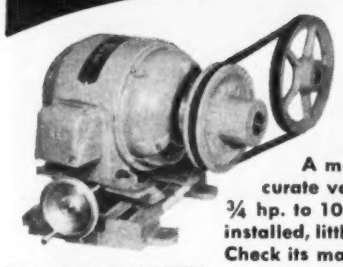
▲ For more details circle NED-707 H1 on enclosed inquiry slip ▲

Airless Paint Spraying

FREE Nordson Corp.—Two bulletins of 4 and 8 pages are descriptive of the new Versa-Gun for airless spray finishing and the Nordson Airless System which holds overspray to a minimum, reduces need for thinner, provides controlled film thickness, and assures good finish.

▲ For more details circle NED-708 H1 on enclosed inquiry slip ▲

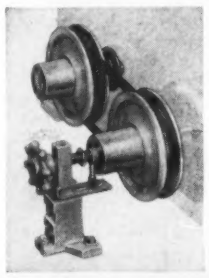
SPEED SELECTOR VARIABLE SPEED DRIVES and SHEAVES



New ADJUSTABLE MOTOR BASE

A most efficient and accurate variable speed drive—¾ hp. to 10 hp. Low cost, easily installed, little or no maintenance. Check its many advantages!

Write for Bulletin No. 95



VARI-PITCH SHEAVES

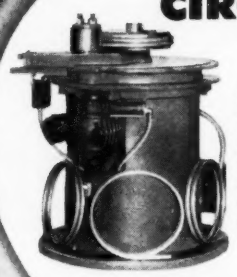
can give your machines wide-range speed control on fixed centers—ratios up to 8:1—capacities from ¼ hp. to 10 hp. Used by many industries in a variety of applications. Rugged, efficient, economical, simple to use.

Write for Bulletin No. 80

SPEED SELECTOR INC.
P.O. BOX 312-N · CHAGRIN FALLS, OHIO

▲ For more details circle NED-709 H1 on enclosed inquiry slip ▲

BENDING CIRCLES?



Pedrick Production Benders travel in the best circles—and produce from pipe, tubing or structural metal the best circles or any other type of bend—faster, more economically.

PEDRICK TOOL AND MACHINE CO.
3640 N. Lawrence St.
Phila. 40, Pa., Dept 6.

"Select your proper bending machine from the NEW PEDRICK LINE BULLETIN. Ask for it now."

BEND WITH PEDRICK

▲ For more details circle NED-710 H1 on enclosed inquiry slip ▲

This Hopper on your truck

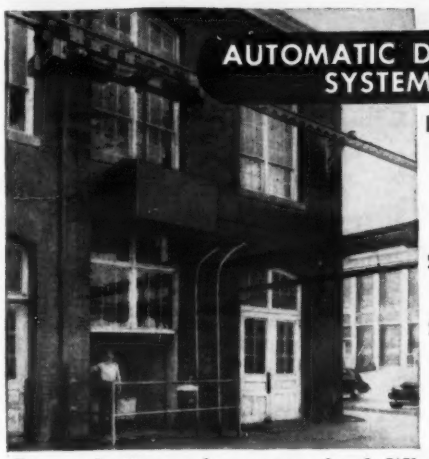
CAN CUT HANDLING COSTS 50%

One man with a lift truck can cut handling time and effort in half with Roura *self-dumping* hoppers. Pull a latch and the Hopper *automatically* dumps itself, rights itself, locks itself. Thousands of Roura Hoppers are now in use handling scrap metal, hot forgings . . . in fact, *any* bulk material or component parts. Eight sizes, ⅓ to 4 yards capacity . . . made of steel plate, stainless or galvanized. Standard models shipped from stock. For detailed specifications, write:

ROURA IRON WORKS, INC.
1415 Woodland Avenue,
Detroit 11, Michigan.

ROURA Self-Dumping HOPPER

▲ For more details circle NED-711 H1 on enclosed inquiry slip ▲



RUN Between Points Without Operators

SPEED Production

SAVE Time Money Floors Elevators

Press a button and up goes a load. When it reaches top position, the overhead carrier starts on its way to next room or building other side of street. Back and forth it travels automatically, carrying materials without operator accompanying. Many types of automatic Tramrail systems are cutting costs drastically and smoothening production flow.

AUTOMATIC DISPATCH SYSTEMS

Write for this free booklet.

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6640 East 285th St. Wickliffe, O.

CLEVELAND TRAMRAIL

For more details circle NED-712 H1 on enclosed inquiry slip

METAL CLEANERS

● **Four new ones offer big advantages.**

New Houghton CERFA-KLEENS give you EXTRA benefits such as built-in rust prevention, water softening, non-foaming and free rinsing characteristics. One of these four products will handle almost any metal cleaning job—soak tank or power washer, hot or cold. Simplifies purchasing as well.

Write for new CERFA-KLEEN Brochure.
E. F. Houghton & Co.
303 W. Lehigh Ave.
Philadelphia 33, Pa.

Houghton

INDUSTRY'S PARTNER IN PRODUCTION

For more details circle NED-713 H1 on enclosed inquiry slip

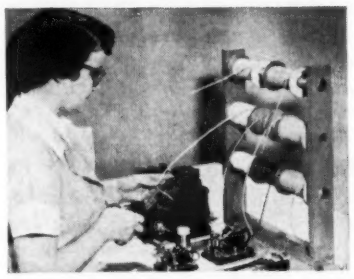
NEW MATERIALS AND PROCESSES

CLEAR PLASTIC TUBING
large sizes can be sterilized

Developed as a milk transfer hose, but usable in other applications where sanitation and ease of cleaning are required, NT-470 Series flexible, clear plastic tubing is available in up to 2½ in. ID. Larger sizes can be furnished, and smaller diameters are supplied from stock. Tubing can be sterilized with steam or chemical bactericides. Its interior walls are smooth to minimize bacteria accumulation and to facilitate cleaning. ● **Textron, Inc.,** Munray Products Div., 12400 Crossburn Ave., Cleveland 35, Ohio.

For more details circle NED-715 H1 on enclosed inquiry slip

ELECTRICAL SLEEVING
insulation is prepackaged on spools



Any combination of ten standard colors and all sizes from No. 12 to 26 AWG can be ordered in the Mini-Pak prepackaged assortment of ten 100-ft spools of electrical insulating sleeving. By racking the individual spools of Durasyl Class H silicone rubber Fiberglas sleevings on spindles or rods as shown product assembly is facilitated. The most-used colors and sizes are now available in prepackaged, economical small lots. ● **Bentley-Harris Mfg. Co.,** Conshohocken, Pa.

For more details circle NED-716 H1 on enclosed inquiry slip

LAYOUT INK
three colors for die, mold makers

Ink film laid down by Slide Thin-Line layout ink makes it possible to scribe extremely thin, sharp lines that are not destroyed by crossing. The self-spray product is offered in blue, green, and red colors, and may be used on metal, glass, porcelain, and other materials. ● **Perc E. Harms Co.,** 1751 Harding Rd., Northfield, Ill.

For more details circle NED-717 H1 on enclosed inquiry slip

Free demonstration of ADVANCE HYDRO-VAC in your plant!

SEE FOR YOURSELF how Advance Hydro-Vacs pull dirt from floors, corners . . . from way under immovable objects.

SEE FOR YOURSELF how Advance Hydro-Vacs give you quick, sure pick up—wet or dry.

GET ALL THE FACTS. Write for free brochure on Advance Hydro-Vacs. Ask about free demonstration in your building, no obligation.

WET or DRY PICKUP

ADVANCE

ADVANCE FLOOR MACHINE COMPANY
120 INDUSTRIAL CENTER, SPRING PARK, MINNESOTA

For more details circle NED-718 H1 on enclosed inquiry slip

CONTROL

New! The most reliable limit switch ever developed

(from Cutler-Hammer, of course)

The serious problem of limit switch failures has now been greatly reduced thanks to Cutler-Hammer's new oiltight limit switch. Under test conditions much tougher than in actual production, our limit switches have lasted far longer than any other brand.

It fits almost anywhere and in any position. Change lever motion quickly in the field. No other switch sealed more effectively. Get facts in PUB. ED-143-Q251.

WHAT'S NEW? ASK . . .

CUTLER-HAMMER

Cutler-Hammer, Inc., Milwaukee, Wisconsin • Division: Airborne Instruments Laboratory • Subsidiary: Cutler-Hammer International, C. A. • Associates: Canadian Cutler-Hammer, Ltd.; Cutler-Hammer, Mexicana, S. A.

For more details circle NED-714 H1 on enclosed inquiry slip

UNIVERSAL
SELECT "O" RING KITS

Fills Replacement Needs on 85% of All Industrial Equipment

★ 180 "O" Rings in Each Kit—Sizes 1 to 25.
★ Patented Plastic Case Shows You "O" Ring Sizes in Kit at a Glance!
★ Interchange Data of All Leading "O" Ring Producers in Each Kit — All Manufacturers' Numbers Converted to Universal Numbers.
★ Buy Replacement Back-up Washers in these "O" Ring Sizes.

TEFLON	$115.95
BUTYL RUBBER	$ 47.95
STANDARD COMMERCIAL (Buna N)	$ 24.50
STANDARD SILICONE RUBBER	$ 66.90
VIM LEATHER BACK-UP WASHERS	$ 28.75
SELECT-O-RING KITS IN VITON	$124.50
AN 6227 SERIES	$ 59.50

RETAINING RING
ECON-O-KIT

400 Truarc Cadmium Plated Rings —84 Sizes—70% of Ring Sizes Used in Industry

Save—eliminate many purchase orders for small quantities of retaining rings — Get most sizes used on your equipment with only ONE order — in one shockproof, plastic case. Sizes from ¼ to 2½ inches in the three most used Truarc series of internal, external and universal crescent ring designs. All rings meet National Aircraft Standards NAS 669 and NAS 670. Low priced at $34.50 per kit.

Installation and removal tools also available.

Packaged Merchandise Co.
3067 W. 117th St. • Cleveland 11, Ohio

For more details circle NED-719 H1 on enclosed inquiry slip

temperature and pressure extremes require ACHESON MOLY & GRAPHITE-fortified compounds for unparalleled performance

in: METALWORKING LUBRICANTS

ASSEMBLY AND RUN-IN

MOLD COATINGS

ELECTRICALLY CONDUCTIVE FILMS

PARTING AGENTS

SOLID FILM LUBRICATION

Specific application recommendations and product data available on request.

ACHESON COLLOIDS COMPANY Port Huron, Michigan

For more details circle NED-722 H1 on enclosed inquiry slip

NEW

A Fast, Low Cost Way to:

COUNTERWEIGHT....
ADD WEIGHT....
PREVENT REBOUND....
ABSORB SHOCK....

IN A WIDE RANGE OF PRODUCTS

Just flow metal balls or free-pouring metal powder where needed into cavities! This can be done manually or automatically. Weight of the balls range up to 300 pounds plus per cu. ft. Dozens of applications; new ones will suggest themselves. Let us help you with *your* problems. Send your Inquiry to us!

BALLAST DIVISION
THE NATIONAL METAL ABRASIVE CO.
3560 Norton Rd., Cleveland 11, Ohio

For more details circle NED-723 H1 on enclosed inquiry slip

ALLENAIR CORP., 255 East 2nd St., Mineola, N. Y. NED-8

Name.....
Company.....
Address.....
City.....Zone.....State.....

For more details circle NED-724 H1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Metal Foils for Design Engineers

Five 3 x 7-in. samples of metal foils in thicknesses from 0.000125 to 0.0005 in. are provided in the Metal Foils binder. These consist of beryllium copper, stainless steel, 4-79 Moly Permalloy, copper, and Havar. Metal foils from 0.0001 to 0.0005 in. thick are being produced from most commercially available alloys and metals. Price of book is $10. Write on company letterhead to **Hamilton Watch Co.**, Precision Metals Div., Lancaster, Pa.

For more details circle NED-725 H1 on enclosed inquiry slip

Transistorized Digital System Modules

FREE Navigation Computer Corp. — Series 300 transistorized digital system modules described in 16-page catalog are 5 x 6-in. glass epoxy etched-circuit plug-in cards designed for digital systems functions. They are packaged on gold plated modules. Block diagrams, logical design considerations, and input-output specifications are included.

For more details circle NED-726 H1 on enclosed inquiry slip

Offset Side Bar Chain

FREE Acme Chain Corp.—Offset side bar chain made with a series of identically bent links is subject of 4-page Bulletin 8. Chains are widely used in oil field installations, construction machinery, and transit mixers, and have a tendency to free themselves of dirt and debris. Prices cover 1¼, 1½, 1¾, and 2-in. pitch sizes in single, double, triple, and quadruple widths.

For more details circle NED-727 H1 on enclosed inquiry slip

Product Design Data

"Engineering Data for Product Design" is a compilation of charts, formulas, tables, and facts useful to design engineers in all phases of manufacturing. Book consists of "reference book sheets." Covered are general engineering, metals and alloys, nonmetallic materials and finishes, component and general design analysis, beams, torque, moment of inertia, bearings and shafts, and gears. Price of book is $10. Available by writing **McGraw-Hill Book Information Service**, 327 W. 41st St., New York 36, N. Y.

For more details circle NED-728 H1 on enclosed inquiry slip

Front End Loaders

FREE Caterpillar Tractor Co.—Jobs that can be handled by front end loaders are illustrated in 8-page booklet "Do More Jobs Easier" which covers each of company's three wheel-type and three track-type Traxcavators. The most popular attachments are shown, and condensed specifications are provided.

For more details circle NED-729 H1 on enclosed inquiry slip

Glass-Resin Storage Tanks

FREE Black, Sivalls & Bryson, Inc.—Poxyglas glass-resin tanks for corrosive liquid storage are subject of 6-page Folder 45-115. Capacities of tanks are 4600, 8500, 12,000, and 16,000 gal. They are made by winding epoxy impregnated glass filaments over a mandrel and curing to form a hard, single-structure tank shell.

For more details circle NED-730 H1 on enclosed inquiry slip

Sling Chains

FREE American Chain & Cable Co., American Chain Div.—Chart featured in 8-page Catalog DH-39-B on Accoloy Kuplex sling chains shows the correct components to select for single and two, three, and four-leg slings. Working load limits when lifting loads with sling legs at 30, 45, and 60-degree angles are also charted.

For more details circle NED-731 H1 on enclosed inquiry slip

Air Motors, Pumps, Compressors

FREE Gast Mfg. Corp.—Described in 12-page Catalog 660 are six sizes of air motors rated 1/20 to 7 hp, compressors rated from 0.6 to 45 cfm at up to 30 psi, and vacuum pumps rated from 0.6 to 50 cfm at up to 28 in. Hg. Both oil-less and lubricated models are offered.

For more details circle NED-732 H1 on enclosed inquiry slip

Material Handling Trucks

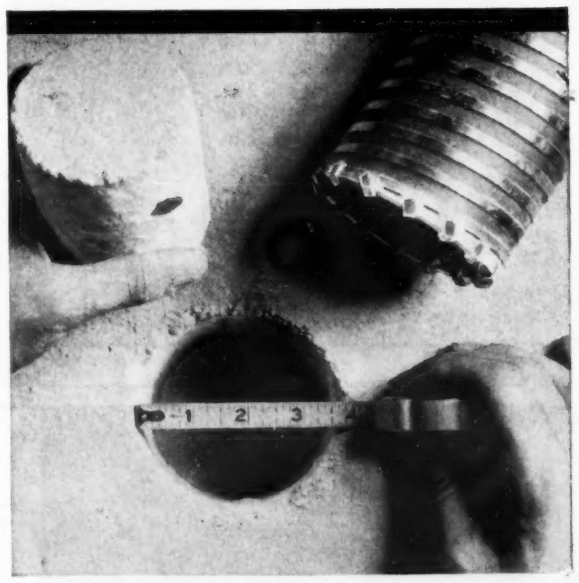
FREE American Pulley Co.—Medium and heavy duty hand trucks, appliance and special purpose trucks, platform trucks, liquid handling units, and industrial wheels are among material handling equipment reviewed in 20-page Catalog I-60. The two-wheeled hand units are built in capacities up to 1650 lb; platform trucks in capacities to 2750 lb.

For more details circle NED-733 H1 on enclosed inquiry slip

DIAMOND EXPANSION BOLT CO., INC., 502 North Avenue, Garwood, N. J.

For more details circle NED-734 H1 on enclosed inquiry slip

NOW! DRILL 3½" holes in reinforced concrete!



with SKIL ROTO-HAMMER and NEW SKIL CORE BITS

New Skil hollow core, percussion type carbide bits increase the range of the amazing Skil Model 726 Roto-Hammer from 1⅛" up to 1½" and the Model 736 from 2" up to a full 3½"!

What's more they drill right through steel reinforcing rods—an impossibility with solid carbide bits or star drills.

This means that the hammers that already drill masonry holes at the *lowest cost per hole* and with *lowest hammer maintenance* have tremendous added versatility. (No wonder Skil Roto-Hammers are certain to be the largest sellers again in '61).

Ask your Skil distributor for demonstration. Look under "Tools-Electric" in the Yellow Pages. Or write: Skil Corporation, Dept. 119H, 5033 Elston Avenue, Chicago 30, Illinois.

SKIL ...and SKILSAW POWER TOOLS

For more details circle NED-735 H1 on enclosed inquiry slip

MUST YOU MEET

SHORT-RUN LABELING?

If short runs and a wide variety of labels are part of your labeling problem, this machine can help you. Industries such as drug, hardware, electronic, automotive and textile have found that *roll labeling without glue* offers matchless control, efficiency and convenience.

New Jersey Machine Corp. offers the economies of roll labels, the ability to imprint valuable data within a master label, and a quick-start no-glue labeling operation. Write today for full information.

Labeling, Cartoning, Paper Box Machinery
NEW JERSEY MACHINE CORPORATION

Main Office and Plant: 16th Street and Willow Avenue, Hoboken, New Jersey • Oldfield 9-0483
Factory Sales & Service Branches: 325 W. Huron St., Chicago 10, Ill. 2500 W. 6th St., Los Angeles 57, Cal.

For more details circle NED-736 H1 on enclosed inquiry slip

APEX UNIVERSAL WRENCHES and EXTENSION UNIVERSAL WRENCHES

An Apex universal wrench gives your power tool the flexibility needed to get right on fasteners located deep down where operating space is limited . . . even makes it possible to work around obstructions. Meets all safety requirements, will not bind or lock, even at maximum operating angle.

There are 1,268 types and sizes of Apex universal wrenches and extension universal wrenches among the more than 7,000 stock types and sizes of Apex fastening tools, each one developed to help reduce your fastening costs. In addition, we'll quote promptly on specials.

APEX

WRITE FOR CATALOG
30-A – Nut Running Tools – to 5/8" drive
30-B – Nut Running Tools – over 5/8" drive
30-C – Screwdriving Tools
30-D – Specials and Spline Drive

THE APEX MACHINE & TOOL COMPANY
1046 S. Patterson Blvd. • Dayton 2, Ohio

For more details circle NED-737 H1 on enclosed inquiry slip

NYLON PRESSURE TUBING

Garlock Nylon Pressure Tubing can be formed into all contours, offers wide application "leeway."

Flex it . . . twist it . . . bend it! In fact, shape Garlock Nylon Pressure Tubing into practically any contour you need. Think what this means in terms of freedom and versatility on hydraulic-pneumatic systems, pressure lubrication lines, oil and fuel lines, vacuum systems. Garlock Nylon Pressure Tubing is a superior material, unaffected by oils, alkalies, hydraulic fluids, and many solvents that tend to corrode metal. It resists vibrational fatigue, abrasion, impact; withstands temperatures from −60°F to +180°F (can be heat stabilized for 300°F). Available in 1000 and 2500 p.s.i. grades, conforming to J.I.C. specifications. Diameters from 1/8" O.D. up to largest size commercially made. Call our nearest sales office for more data. Or, write for Catalog AD-177, Garlock Inc., Palmyra, N. Y.

GARLOCK

Canadian Div.: Garlock of Canada Ltd.
Plastics Div.: United States Gasket Company
Order from the Garlock 2,000 . . . two thousand different styles of Packings, Gaskets, Seals, Molded and Extruded Rubber, Plastic Products.

For more details circle NED-738 H1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

STENCIL COVERING SPRAY dries in 5 to 10 minutes

Erroneous stenciling or old stencil markings on previously used cartons are obliterated in a few minutes with spray-type Blot-o Stencil Eliminator. It dries in 5 to 10 min, allowing almost immediate re-stenciling or handling of the carton. The 16-oz self-spraying can sells for $1.39. • Seymour of Sycamore, Inc., 220 Lucas St., Sycamore, Ill.

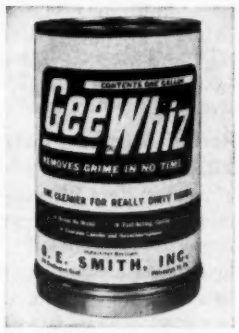
For more details circle NED-739 H1 on enclosed inquiry slip

POLYURETHANE COATINGS in all colors and in clear

Two-component Ureflex 100 Series polyurethane coatings can be used on all metals, wood, rubber, glass fiber, concrete, masonry, leather, and plastics. Coatings exhibit high resistance to solvents, chemicals, moisture, water immersion, and abrasion and have excellent weatherability, high gloss, and hardness with flexibility. Components are mixed in equal volumes. A straight castor polyol coating system and two separate modified polymeric ester glycol systems meet various combinations of chemical resistance, flexibility, and hardness. All colors, including clears, are available. • Harrison Development Co., 20818 Harper Ave., Detroit 36, Mich.

For more details circle NED-740 H1 on enclosed inquiry slip

WATERLESS HAND CLEANER can designed for dispenser use



Grease, carbon, paint, foundry binder, and other types of soils are removed from the hands by Gee-Whiz waterless hand cleaner, a semisolid, cream-like product containing lanolin and hexachlorophene. The 1-gal, 7½-lb 1000-application can is designed for use with a single-stroke dispenser which deposits 1/8 oz with each plunger stroke. A follower plate in the can forces the entire contents through the dispenser. • G. E. Smith, Inc., 4 Manilla Ave., Pittsburgh 20, Pa.

For more details circle NED-741 H1 on enclosed inquiry slip

NEW GLACIER DU* DRY BEARINGS

Problem after problem arising from extreme temperatures and wear has been solved by using DU metal as a bearing material. It not only withstands higher velocities, but runs much cooler than other unlubricated bearings at comparable speeds. DU metal withstands from −450°F to +536°F, is applied without the need for temperature limiting adhesives. DU metal has a compressive strength of 51,000 p.s.i.

Apply DU material to appliances, automobiles, aircraft, farm and industrial machinery, office equipment. Standard bushings available for 1/4" to 5" shafts; thrust washers for 3/8" to 2" shafts; hemispherical cups from 5/8" to 1½"; strip available for special fabrications.

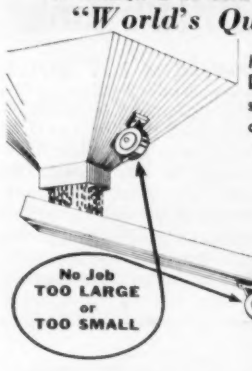
GARLOCK

Find out more from your bearing manufacturer, or write for engineering catalog DU-458. Special Products Dept., Garlock Inc., P.O. Box 612, Camden 1, N. J.

*Trademark, Glacier Metal Company, Ltd.

For more details circle NED-742 H1 on enclosed inquiry slip

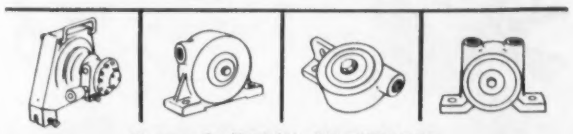
VIBROLATOR® VIBRATION INDUCERS
"World's Quietest Vibrators"



Move materials OUT of hoppers, DOWN chutes and THROUGH screens. A vibrator for every requirement.

FEATURES:
- LONG LIFE
- RUGGED
- POWERFUL
- UNIQUE DESIGN
- PATENTED THROUGHOUT
- UNCONDITIONAL GUARANTEE

FREE 30-DAY TRIAL ON ALL SIZES.
Stocking distributors coast-to-coast listed under VIBRATORS in the Yellow Pages.



42-page CATALOG ON REQUEST

FIND US FAST IN THE YELLOW PAGES

Manufactured by:
MARTIN ENGINEERING COMPANY
Specializing in Applied Vibration
155 Nedlow St., Neponset, Illinois

® VIBROLATOR is Martin Engineering's registered trade mark for vibration inducers and vibrator accessories.

For more details circle NED-743 H1 on enclosed inquiry slip

Here's the way to reduce costs for machine parts, controls, and operating devices.

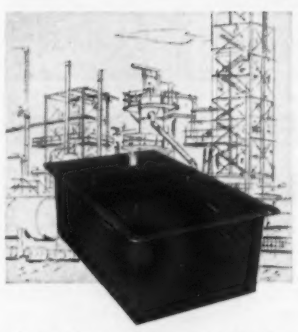
There are unlimited possibilities for "Safe-Lock" assemblies — and there are hundreds of standard combinations listed in Catalog 6101. They cost you less than making assemblies yourself in a non-specialized shop. "Safe-Lock" fittings develop the full strength of the wire rope. For safe, cost-cutting, efficient, top quality cable assemblies, ask for Catalog 6101. Macwhyte Wire Rope Company, 2900 Fourteenth Avenue, Kenosha, Wisconsin.

MACWHYTE

252

For more details circle NED-744 H1 on enclosed inquiry slip

CORROSION RESISTANT TANK LININGS



Typical Chemical Milling Tank Penton*—Lined to Handle Hot Acids

New GAR-LINE Penton Tank Linings offer economical, high-temperature protection against corrosion. These linings are proving their ability to perform as well as, and better than more expensive materials in many corrosive exposures at high temperatures. Mechanically, GAR-LINE Penton Tank Linings exhibit excellent tensile strength at high temperatures, good dimensional stability and low water absorption. Chemically, they resist all inorganic acids except fuming nitric and fuming sulfuric. GAR-LINE Penton Tank Linings are applied by carefully selected and authorized applicators, including one near you.

GARLOCK

For more information on Penton (or Teflon†) Tank Linings, write to Special Products Dept., Garlock Inc., P.O. Box 612, Camden 1, New Jersey.

*Registered Trademark, Hercules Powder Co.
†Registered Trademark, The Du Pont Co.

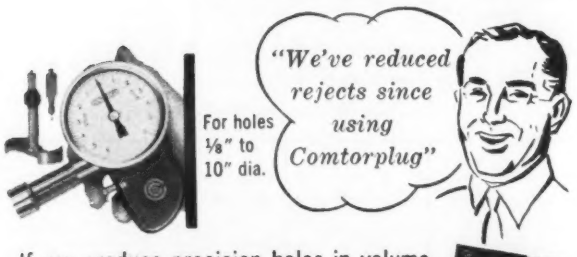
For more details circle NED-745 H1 on enclosed inquiry slip

Could an

E-X-P-A-N-D-I-N-G PLUG GAGE

solve a gaging problem for you?

The Comtorplug expansion principle is unique . . . and proven. Hundreds of U. S. precision-production programs use it, including several of the very largest. The unique expansion plug gives true 2-point gaging. You see actual diameter in a fixed reading to fraction of .0001". You measure front or back taper exactly, also ovality, bell mouth, etc. Centering, alignment and pressure are automatic, allowing accurate use by all types of personnel.



If you produce precision holes in volume

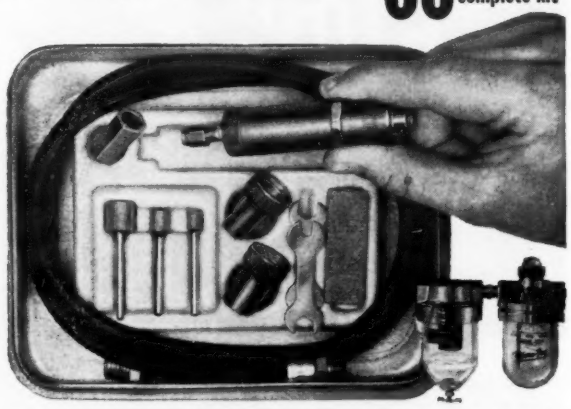
SEND FOR BULLETIN 51

COMTOR COMPANY 73 FARWELL ST., WALTHAM 54, MASS.

COMTORPLUG

For more details circle NED-746 H1 on enclosed inquiry slip

New Buckeye Air Grinder for Precise Grinding... NOW ONLY $88.50 complete kit



KIT INCLUDES: 1—14G air grinder, 3—nose pieces, 3—grinding points, 1—5' hose and couplings, 1—dressing stone, 3—Wrenches, 1—Vitalizer (air filter and lubricator), 1—plastic case.

COMPARE THESE FEATURES WITH ANY GRINDER IN ITS CLASS.

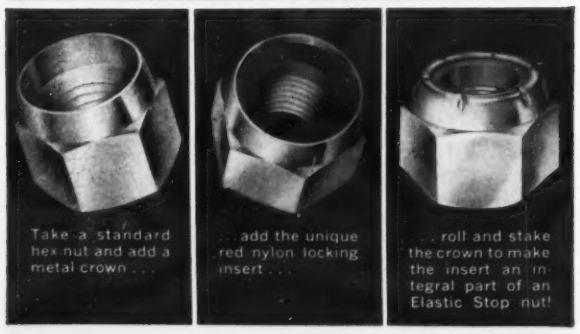
• LIGHTWEIGHT, only 5 oz. • COMPACT, WELL BALANCED, only 3¾" long. • INFINITE SPEED CONTROL, RING THROTTLE, 0 to 50,000 RPM. • CAPACITY, ½" mounted points. • RUGGED CONSTRUCTION, one-piece all steel motor housing, large precision ball bearings supporting one-piece spindle. • STURDY VANE-TYPE AIR MOTOR. • QUIET OPERATION. • ¼" or 3/32" collets.

Order Direct from Factory or Contact Your Local Buckeye Representative Today!

Buckeye Tools CORPORATION

P. O. BOX 966 DAYTON 1, OHIO

For more details circle NED-747 H1 on enclosed inquiry slip



BUILD FASTENER RELIABILITY INTO YOUR PRODUCT

with vibration-proof ELASTIC STOP® nuts!

An Elastic Stop nut will stay put under the most severe vibration test you can devise. That's because the integral nylon locking collar grips bolt threads with a skin-tight fit that never lets go till you wrench the nut off. And thanks to nylon's plastic memory, the locking collar maintains its locking torque—for 50 or more re-uses! Never galls or distorts bolt threads. Seals off liquid seepage to prevent corrosion of internal threads. All standard thread sizes and finishes; carbon steel, brass, aluminum and stainless steel. For complete information, write Elastic Stop Nut Corporation of America, 2330 Vauxhall Road, Union, New Jersey, Dept. S63-837.

ESNA ELASTIC STOP NUT CORPORATION OF AMERICA

For more details circle NED-748 H1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Radiation Survey Meters & Dosimeters

FREE Victoreen Instrument Co. — 16-page Form 3038-61 on line of nuclear radiation survey meters and dosimeters includes information on nine new models as well as equipment in general use. Included are Geiger-scintillation survey meters, GM and scintillation probes, a gamma dose rate meter, alpha-beta-gamma survey meter, portable radiation survey meter, charger-readers, stray radiation chambers, and direct reading dosimeters and chargers.

For more details circle NED-749 H1 on enclosed inquiry slip

Alumina Ceramics Standards

FREE Alumina Ceramic Manufacturers Association—Newly published standards of this association contains wide range of data relating to production, design, purchasing, and use of alumina ceramic materials. The materials are suited to a wide variety of dielectric, mechanical, chemical, and abrasion resistant applications.

For more details circle NED-750 H1 on enclosed inquiry slip

Workholding Clamps

FREE United Associated—Three types of quick-acting threadless clamps for workholding, welding, and deep-throat work are detailed in 4-page bulletin. Two to six-inch sizes are available in stainless steel, steel, and beryllium copper constructions.

For more details circle NED-751 H1 on enclosed inquiry slip

Resin-Glass Fiber Equipment

FREE IDEA Inc.—Complete glass fiber and resin spray units for fabricating, coating, finishing, and other operations are now available to industry through a leasing or rental program. Details of the equipment as well as the leasing plan are presented in a 12-page brochure.

For more details circle NED-752 H1 on enclosed inquiry slip

Industrial Maintenance Materials

FREE Ranco Industrial Products Corp.—Seventy-five industrial maintenance materials and their suggested applications are covered in well-illustrated 24-page bulletin. Materials for use in roof repair, machinery anchoring and grouting, electric motor cleaning, and ice control are described.

For more details circle NED-753 H1 on enclosed inquiry slip

Rolled Surface Pattern Metals

FREE Sharon Steel Corp.—Sizes, patterns, and engineering data as well as suggested uses and fabrication methods for Sharonart are described in 20 page "Designers' Handbook." This surface-rolled pattern stainless, carbon, and coated steel is shown in color. Artists' sketches depict applications in automotive, architectural, appliance, and business equipment fields.

For more details circle NED-754 H1 on enclosed inquiry slip

Hydraulic Power Guidance

FREE Oil-Dyne, Inc.—Answers to most hydraulic power questions are given in 76-page Catalog 21 on hydraulic pumps, accessories, and systems. Ninety-six basic miniaturized pump models are described, as are hand pumps, standard and heavy duty pressure switches, relief valves, gages, and ½ to 4-in. bore cylinders. Such accessories as tube and pipe fittings, hose, couplings, filters, strainers, valves, heat exchangers, timers, accumulators, and electrical accessories are shown.

For more details circle NED-755 H1 on enclosed inquiry slip

Remote-Indicating Load Cells

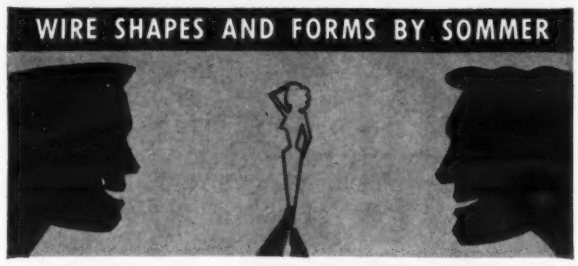
FREE W. C. Dillon & Co.—Suggested uses for various types of remote-indicating load cell systems as well as an explanation of the new Dillon differential transformer principle are contained in 12-page engineering manual. Load cells cover the range from 0 to 100 lb up to 0 to 1,000,000 lb in compression, tensile, and push-pull types.

For more details circle NED-756 H1 on enclosed inquiry slip

Tools for Most Needs

The Third edition of Starrett Catalog No. 27 contains 480 pages of information on over 3500 mechanics' hand measuring tools and precision instruments, dial indicators, dial gages and instruments, special tools, hack and hole saws, band saws and knives, and precision ground flat stock. A 20-page reference section contains useful tables and data. Book is available only by writing on letterhead to L. S. Starrett Co., Athol, Mass.

For more details circle NED-757 H1 on enclosed inquiry slip



"I like the Shape, Too, Boss, but... FOR PRECISION WIRE PRODUCTS OR PARTS TO YOUR SPECIFICATIONS ...ASK SOMMER METALCRAFT

We can mass-produce complex and simple wire forms for you accurately and at low cost . . . right from your sample, blueprint or drawing.

We have the finest facilities and modern equipment available for complete forming, stamping, cut-threading and butt welding . . . as well as speedy automatic and barrel plating in cadmium, brite zinc, brite nickel, nickel-chrome and brass. Also baked enamel and mill finishes.

Tell us your needs. We can make recommendations and quotations without delay! Look us up in Thomas Register for the full Sommer story.

SOMMER
METALCRAFT CORPORATION
200 POSTON DRIVE
CRAWFORDSVILLE, INDIANA

For more details circle NED-758 H1 on enclosed inquiry slip

For Faster, Better Soldering

Use Rubyfluid

RUBYFLUID'S better soldering flux—liquid or paste—assures you of strong, neat unions, quickly and easily. RUBYFLUID'S fast acting formula wets out freely . . . is free from objectionable and harmful fumes . . . is economical to use.

For stainless steel soldering, use RUBY's Special Stainless Steel flux . . . designed specifically for this application . . . requires no extra heat, no extra equipment, will not corrode or discolor metal.

RUBY CHEMICAL CO.
72 S. McDowell Street Columbus 8, Ohio

Rubyfluid

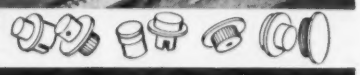
For more details circle NED-759 H1 on enclosed inquiry slip

NEW MOTORIZED **GRD** FIXTURE

Supplementing 20 hand fixtures previously available, Motorized unit makes practical marking many parts not customarily marked. *Ask for New Bulletin No. 685.*

HIGH-PRODUCTION MARKING
— AT LOW COST

MARK PARTS LIKE THESE

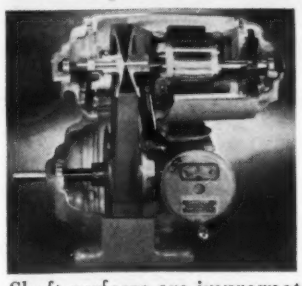


Mecco SAFETY MARKING TOOLS **M.E.CUNNINGHAM CO.**

1055 CHATEAU STREET, PITTSBURGH 33, PA.

For more details circle NED-760 H1 on enclosed inquiry slip

NEW VARIABLE SPEED DRIVE
requires no lubrication



Sterling Electric Motors has eliminated all lubrication maintenance problems. No part of their new variable speed drive needs to be lubricated.

All bearings, sealed and shielded, are factory-lubricated and therefore require no lubrication. Shaft surfaces are impregnated with a special exceptionally tough and wear-resistant material which eliminates need for lubrication. The nonmetallic bushings are also fabricated from a special material that is equally wear-resistant.

At no time do these surfaces require any attention. Even the keys are fabricated from a tough elastic material and will not wear out.

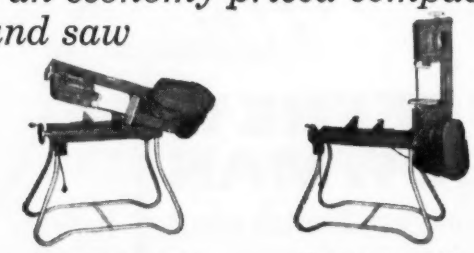
Fret corrosion, long a problem with metallic load-bearing surfaces, is completely eliminated since non-metallic surfaces now carry the load. Sticky pulleys, frequently the result of improper lubrication, are no longer a problem.

Sterling's new "Lube-Free" variable speed drive can be installed in any location, no matter how inaccessible, since lubrication maintenance is no longer needed.

• **Sterling Electric Motors, Inc.**, 5401 Telegraph Road, Los Angeles 22, California. *Advertisement.*

▲ For more details circle **NED-761 H1** on enclosed inquiry slip ▲

NOW... big machine quality in an economy priced compact band saw



Use it as a horizontal cut-off machine. Use it as an upright band saw.

THE NEW WELLS MODEL 300 METAL CUTTING BAND SAW

Would you like to make your metal cut-off jobs easier and more efficient? Would you like to be able to cut angles, slots, notches and bevels in the same machine?

You can do all of this with the new economical-to-buy and economical-to-use Wells Model 300 Metal Cutting Band Saw. Just check these features:

- 3½" x 6" capacity (3½" dia., rounds)
- Selective speeds of 54, 100, 190 ft. per min.
- Gravity feed and automatic shut-off for cut-off work
- Exceptionally rigid construction
- Well guarded—blade can be changed without removing guard
- Optional wheels and handle for complete mobility

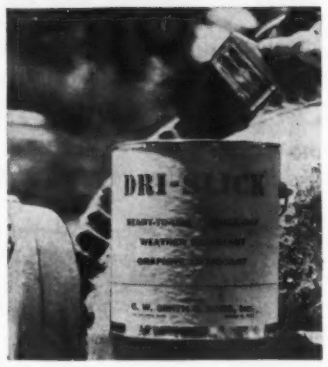
Get full details on this remarkable value from your Wellsaw Representative or write for Bulletin No. 230.

Wells SAW SPECIALISTS SINCE 1925
WELLS MANUFACTURING CORP.
1313 HARDING ST. • THREE RIVERS, MICH.
81-1A

▲ For more details circle **NED-762 H1** on enclosed inquiry slip ▲

NEW MATERIALS AND PROCESSES

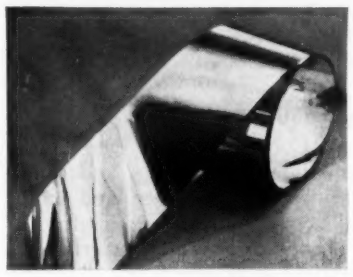
GRAPHITE LUBRICANT
dries to hard, slick finish



Applied with a brush to metal or wood, Dri-Slick graphite lubricant dries to a hard, slick finish in about 30 min. It is offered in 1-gal cans and is used on conveyors, chains, wire rope, outdoor cranes, large open gears, and sliding door channels, as well as on other heavy industrial, construction, and mining machinery. Coating cannot be squeezed out under heavy loads, does not attack dust and dirt, and will not wash off. It is corrosion resistant, electrically conductive, and withstands temperatures from −65 to 800° F. Lubricant also prevents sticking of snow and ice to plow and scraper blades. • **G. W. Smith & Sons, Inc.**, 1700 Spaulding Rd., Dayton 32, Ohio.

▲ For more details circle **NED-764 H1** on enclosed inquiry slip ▲

BUFFED STAINLESS STRIP
production buffed at the mill



Production line buffing on both sides enhances brightness of Unibrite stainless steel strip and improves its corrosion resistance. Coils up to 26½ in. wide and weighing 18,000 lb are fed through a five buffing-station line which operates at speeds of 20 to 80 fpm. During the process, some of the surface is actually removed before the strip is color buffed. Finish, color, shading, and reflectivity are maintained on both sides. Improved cold workability and cleaner roll forming are among side benefits derived from using Unibrite. • **Universal-Cyclops Steel Corp.**, Bridgeville, Pa.

▲ For more details circle **NED-765 H1** on enclosed inquiry slip ▲

Extreme-Pressure Equipment

FREE McCartney Mfg. Corp.—Proportioning and hydrostatic pumps, compressors, check and stop valves, high pressure vessels, and process gas filters are detailed in 38-page "Extreme Pressure Equipment" Catalog. Some items handle pressures to 75,000 psi and higher.

▲ For more details circle **NED-766 H1** on enclosed inquiry slip ▲

FABCEL Pads Patent Applied For

NEW REVOLUTIONARY DESIGN FOR LOW COST MACHINE MOUNTINGS

TO CONTROL VIBRATION
- ABSORB IMPACT
- REDUCE NOISE
- IMPROVE MACHINE PERFORMANCE

Scientifically Constructed Suction Cells Anchor Machine to Floor. No Bolts, Lag Screws or Cement Needed under Most Machinery.

Write for Bulletin today -

FABREEKA PRODUCTS CO., INC.
1190 Adams Street, Boston 24, Massachusetts
Representatives in principal cities
In Canada: International Equip. Co. Ltd., Royal Bank Bldg., Montreal
- made by the makers of Fabreeka -

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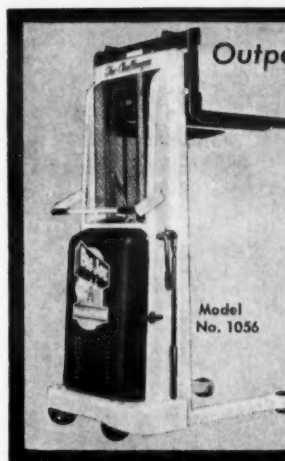

Outperforms All Others in its Class
the Challenger
- Capacity 1,500 lbs.
- 57-in. lifting height
- Synchronized 12-volt heavy duty system

Model No. 1056
$397.50 complete

BIG JOE VALUE

A Rugged, Troublefree Dollar-Saver
the "Pedalift 21"

- Effortless lifting to 54-in. height
- 1,000 lb. capacity
- Carefree maintenance

Model No. 2154
$199 complete

BIG JOE QUALITY

An In-Between-Handling Specialist
the "Big Joe 299"
- 57-in. lifting height
- Battery operated hydraulic system
- Full bearing control

$299 complete
Model No. 9957

over 80 other proven models

BIG JOE MANUFACTURING COMPANY
Vernon Blvd.
Wisconsin Dells, Wisconsin

▲ For more details circle **NED-768 H1** on enclosed inquiry slip ▲

R&M MOYNO® PUMPS

MOYNO® PUMPS
turn problems into profits . . .

Many materials, once considered "unpumpable," are now successfully handled by Moyno Pumps. Moynos move thin watery slurries, non-pourable abrasives, gnawing corrosives or suspended solids up to 1⅛" dia. A wide range of specially-resistant pumping element materials assures proper design for economical handling without excessive pump wear. Capacities from 1/100 to 500 GPM; pressures up to 1000 PSI. Write for new Bulletin 100-NE

ROBBINS & MYERS, INC.
Moyno industrial pumps, motors, household fans, Propellair industrial fans, hoists
SPRINGFIELD, OHIO • BRANTFORD, ONTARIO

typical problem materials successfully handled by a MOYNO . . .

Acetates	Concrete Slurry	Paints
Acetic Acid	Copper Nitrate	Paper Pulp
Acid Mine Water	Creosote	Pickling Acids
Alcohol	Cutting Oil	Printing Inks
Alum (paper mill)	Cyanide of Potassium	Prunes
Aluminum Sulphate	Drilling Mud	Resin Plastic
Aromatic Hydro-carbons	Ferrous Sulphate	Salt Brine 3% to 30%
Asphalt	Fuel Oils	Sewage
Barium Sulphate	Fuming Sulphuric Acid	Shellac
Bichloride of Mercury	Gasoline	Shrimp
Boiler Feed Water	Glue	Soda
Bordeaux Mixture	Hydrochloric Acid	Starch
Carbon Dioxide	Impregnating Compound	Sugar
Carbonic Acid	Lacquers	Sulfurous Acid
Calcium Chloride	Lard	Tar
Caustic Soda (lye)	Latex	Turpentine
Cement	Match Head Compound	Varnish
Citric Acid	Molasses	Vinegar
Clay Slurry	Nickel Sulphate	Wood Pulp
Coffee Grounds	Nitric Acid	Yeast

▲ For more details circle **NED-763 H1** on enclosed inquiry slip ▲

200-AMPERE CAPACITY

IN THIS SIZE

These new Heinemann circuit breaker units carry full 200-amp load and serve equally well as service entrance equipment or safety switch. They cost little more and take far less space than comparably rated fused pull-outs. Magnetically actuated, these breakers never need de-rating for heat, always trip precisely as specified.

Solderless screw-type connectors, knockouts on all sides, plus plenty of wiring space make installation easy and quick. For 120/240V AC, 2 or 3 wires. Indoor and raintight outdoor enclosures. Full details in Bulletin 1003.

HEINEMANN ELECTRIC COMPANY
106 BRUNSWICK PIKE • TRENTON 2, NEW JERSEY
SA 2240

▲ For more details circle NED-769 H1 on enclosed inquiry slip ▲

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TRUSSPAN

Steel Building

REPUBLIC STEEL
TRUSCON DIVISION
Youngstown 1, Ohio

NAMES YOU CAN BUILD ON

Choose TRUSSPAN and you can build as fancy or as plain, as big or as little, as high or as low, as long or as short, as you want to.

Choose TRUSSPAN and you can build a storage shed or a de luxe office at lowest *in-place* cost. Check the cost and your choice will be TRUSSPAN. Call your local TRUSSPAN Dealer-Contractor or contact us direct for more information.

Strong, Modern, Dependable

▲ For more details circle NED-770 H1 on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

How to Modernize Presses

FREE Fawick Corp., Fawick Airflex Div.—"Press Modernization" is title of Bulletin ML-200 which compares the economic and engineering advantages of power press conversions incorporating Fawick Airflex clutches and brakes through complete engineering of new press drive systems, combining new power transmission units with reconditioned components, or adding new power transmission components to existing drive systems.

▲ For more details circle NED-771 H1 on enclosed inquiry slip ▲

Guide to Electrical Contacts

FREE Tricon Mfg. Co.—Charts covering applications and technical data on various contact alloys and specifications of the most commonly employed stock contacts are included in 8-page "Basic Guide to Electrical Contacts." Other points to be considered in the design, specification, and purchase of rivet contacts, laminated contacts, spring and blade components, and complete assemblies are discussed.

▲ For more details circle NED-772 H1 on enclosed inquiry slip ▲

Cost-Cutting Pressure Control Hook-Ups

FREE Spence Engineering Co.—How to cut costs and improve existing pressure regulating systems is explained with diagrams and text in six Application Guides No. A7/11-13. Such subjects as remote shut-off with a two-position electric motor, remote high-low switchover, remote pressure control, controlling domestic water pressure in tall buildings, and load-limiting pressure regulation are covered.

▲ For more details circle NED-773 H1 on enclosed inquiry slip ▲

Hand, Electric & Hydraulic Tools

FREE Snap-On Tools Corp.—128-page 1961 Catalog describes a complete line of wrenches and hand tools for production assembly, maintenance, and product service. Also detailed are manual and hydraulic gear pullers, portable electric drills, sanders, grinders, and electronic and electrical instruments for diagnosing engine operation in fleet maintenance shops.

▲ For more details circle NED-774 H1 on enclosed inquiry slip ▲

Optical & Physical Testing Instruments

FREE Gardner Laboratory, Inc.—Air blast abrasive tester, color-difference meters, scratch thickness gages, glossmeters, impact-flexibility testers, photometers, reflectometers, and viscosimeters are some of the many optical and physical testing instruments and apparatus described in 28-page bulletin.

▲ For more details circle NED-775 H1 on enclosed inquiry slip ▲

Brushing Tool Nomenclature

FREE American Brush Manufacturers Association—15-page "Standard Nomenclature for the Construction of Industrial Brushing Tools" is an authoritative guide to various types of brushes. Each type is shown with simple sketch.

▲ For more details circle NED-776 H1 on enclosed inquiry slip ▲

Industrial Photographic Supplies

FREE Anken Chemical & Film Corp.—Details and prices on papers, films, emulsions, processors, and chemicals are contained in 24-page catalog. Charts aid in processing various materials, and a "Dark Room Tip" section gives suggestions for the handling of engineering drawing reproductions and intermediates. A comparison chart is included on over 30 contact and projection papers and films for engineering, graphic arts, and other industrial and commercial uses.

▲ For more details circle NED-777 H1 on enclosed inquiry slip ▲

Designers Guide to Transistors

"Designers Handbook" is a 28-page comparative study of high-frequency silicon transistors produced by four major manufacturers. The lines of each manufacturer are described and compared for electrical and mechanical characteristics, parameter distributions, design requirements, and schematics. This book is available only by letterhead request to **Raytheon Co.**, Semiconductor Div., 150 California St., Newton, Mass.

▲ For more details circle NED-778 H1 on enclosed inquiry slip ▲

Blowers & Exhausters

FREE Lamson Corp.—Industrial and commercial blowers and exhausters with capacities to nearly 15,000 cfm in single and multistage designs for air or gas are described in 16-page catalog. Included is an engineering section containing formulas, friction loss charts, and variables that affect pressure and horsepower.

▲ For more details circle NED-779 H1 on enclosed inquiry slip ▲

it's low it's flat it's compact

all NEW

sil-low-et roof ventilator

Here's the *lateral-look* in roof ventilators that really brings the "skyline" down! Distinctive, roof-hugging design makes it ideal for commercial buildings, industrial plants and office structures—old or new. Supplied as an exhaust or air supply unit in sizes 12" through 48" for capacities from 325 to 35,900 cfm. Heavy-gauge steel with aluminum asphalt-base paint or all-aluminum on order.

Write for Bulletin 609

Air deliveries of all Aerovent equipment are tested and rated in accordance with established and accepted codes and each unit is guaranteed by the manufacturer to deliver its rated performance.

CERTIFIED PERFORMANCE

Aerovent FAN COMPANY, INC.
Ash and Blake Sts. Piqua, Ohio

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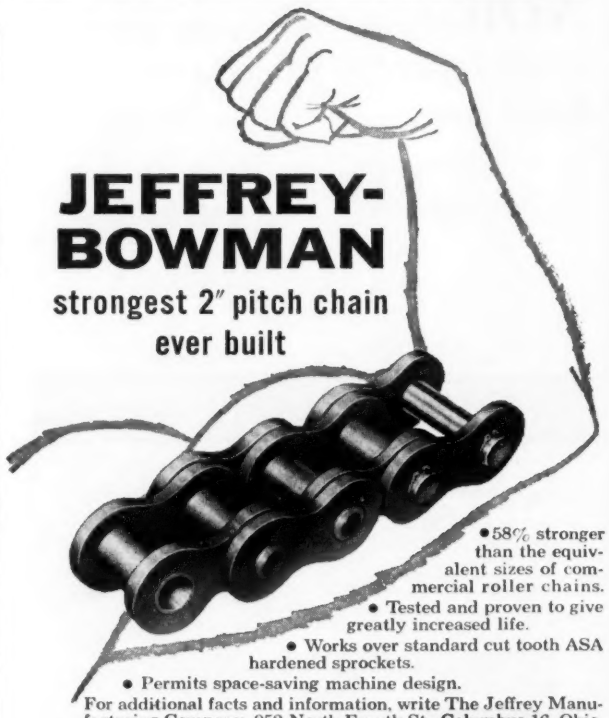

JEFFREY-BOWMAN

strongest 2" pitch chain ever built

- 58% stronger than the equivalent sizes of commercial roller chains.
- Tested and proven to give greatly increased life.
- Works over standard cut tooth ASA hardened sprockets.
- Permits space-saving machine design.

For additional facts and information, write The Jeffrey Manufacturing Company, 952 North Fourth St., Columbus 16, Ohio.

JEFFREY

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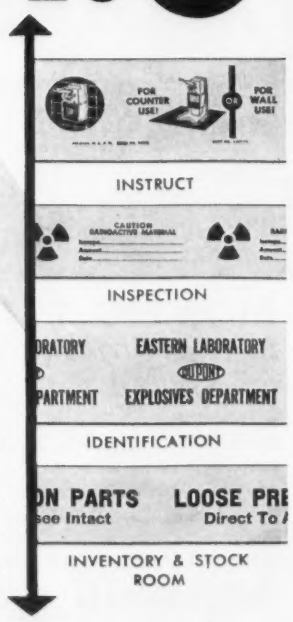
INDUSTRIAL

-70°F TAPES +250°F

Stronger — lasts longer!

- Pressure sensitive heat and cold resistant
- Resist acids, alkalies, moisture, etc.
- Ideal for oxidation, radiation, testing, laboratory, electronics, etc.
- Available in plain or custom preprinted labels.

Write for complete literature and the name of your nearest TIME representative.



PROFESSIONAL TAPE CO., INC.
359C Burlington Ave. • Riverside, Ill.

▲ For more details circle NED-782 H1 on enclosed inquiry slip ▲

PANNIER SINGLE WHEEL CODE PRINTERS MARK YOUR PRODUCTS *Quickly . . Clearly*

Do you have a product that's hard to mark? The concrete walk blocks shown here are being marked quickly, easily and clearly with a Pannier Single Wheel Code Printer. This is only one of many marking problems solved with the versatile Pannier Wheel Printer. Equipped with a conveyor-type mounting, it can be adapted to your production line.

Pannier Single Wheel Code Printers have an ink fountain designed for longer runs without re-inking. Different styles of wheels are available to accommodate E-Z Set fast-change type, rubber printing dies and logo-types or interchangeable Dovetail Rubber Type in character sizes from 1/16" up. These printers are available with or without friction bands to aid printing flat surfaces with small characters, or for non-continuous marking.

Ink fountains are quick-change, permitting you to change color or type of ink to mark different products. Pannier offers a complete line of inks in a wide range of colors to meet your specific marking need. For further information, write:

PANNIER MASTER MARKERS
328 Pannier Bldg., Pittsburgh 12, Pa.

▲ For more details circle **NED-783 H1** on enclosed inquiry slip ▲

A.W.Faber's

LOCKTITE TEL-A-GRADE

9800 SG carries a

2 YEAR GUARANTEE THAT MEANS BUSINESS...

A.W.FABER is glad to put its no-nonsense 2-year guarantee in writing. If any part of your #9800SG LOCKTITE Tel-A-Grade wears out in normal use, return it to A.W.FABER-CASTELL, who will replace the entire holder without charge.

So enjoy your LOCKTITE Tel-A-Grade with complete confidence. Enjoy the long, tapered no-slip functional grip that gives blessed relief to your tired fingers. Enjoy the gun rifled, bull dog clutch, the unique indicator which reveals at a glance the degree in use. Yes, LOCKTITE Tel-A-Grade costs a little more, but can you afford to let pennies stand between you and your best working tool? See your Dealer today.

A.W.FABER-CASTELL Pencil Co., Inc., Newark 3, N. J.

Now celebrating its 200th birthday

▲ For more details circle **NED-784 H1** on enclosed inquiry slip ▲

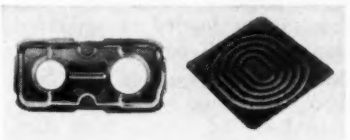
NEW MATERIALS AND PROCESSES

WRINKLE FINISH
now available in spray can

Wrinkle or textured finishes that can be felt as well as seen can be applied to metal, glass, plaster, and wood from an aerosol spray can. Wrinkle finish Spray-O-Namel affords a quick, economical means of renewing the finish of office equipment, appliances, photo equipment, and electronic and scientific equipment. It gives wood surfaces the appearance of metal. Finish is offered in two green and two gray colors as well as tan, silver, brown, blue, and black. • **Illinois Bronze Powder Co.,** 2023 S. Clark St., Chicago 16, Ill.

▲ For more details circle **NED-785 H1** on enclosed inquiry slip ▲

PREFINISHED STEEL
in bright and satin nickel finishes



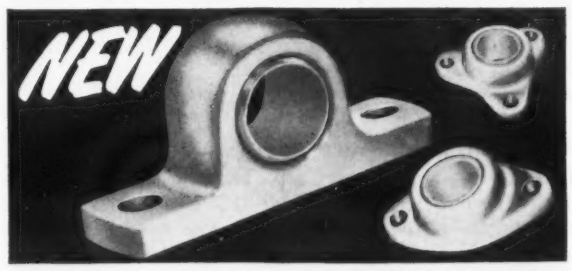
Delivered cut to size and ready to use, ChromSteel can be stamped on production presses into unusual design shapes without need for subsequent plating. Plating thicknesses up to 0.0006 in. of copper and 0.0006 in. of nickel are dense, uniform, and have depth of color. It will deep draw only slight reduction of the mirror finish and an imperceptible effect on the satin finished material. Sharp bends reduce rust resistance, and the sheared edge is unplated. • **Apollo Metals, Inc.,** 6650 S. Oak Park Ave., Chicago 38, Ill.

▲ For more details circle **NED-786 H1** on enclosed inquiry slip ▲

LANCING POWDER
cuts through heavy refractory scrap

Tough refractory materials, huge scrap skulls, and heavily reinforced concrete can be cut by powder lancing with Oxweld No. 201 lancing powder. It consists of a uniformly sized mixture of iron and aluminum powder, particles of which are blended for maximum lancing efficiency without lance burnout. Powder is available in ready-mixed 100-lb drums protected from atmospheric moisture by silica gel. • **Linde Co.,** 270 Park Ave., New York 17, N. Y.

▲ For more details circle **NED-787 H1** on enclosed inquiry slip ▲



Self-Aligning **Self-Lubricating**

Lube-Align®
BEARINGS

Here's a new development in self-aligning bearings. The new "LUBE-ALIGN" Bearing is a self-lubricating oil-impregnated spherical bronze bearing permanently nested in an aluminum die cast housing. No oil cups or grease fittings are needed. Total contact between the bronze bearing and the housing gives added support and permits greater loads to be carried with smaller bearing units and smaller O.D. shafting. Stock sizes are 1/4" to 2" with special sizes and styles available upon request.

Write for complete catalog and price list!

BBI REG. U. S. PAT. OFF.

BRONZE BEARINGS, INC.
3553 West Addison Street
Chicago 18, Illinois
Telephone JUniper 3-1106

Representative and Dealer inquiries invited.

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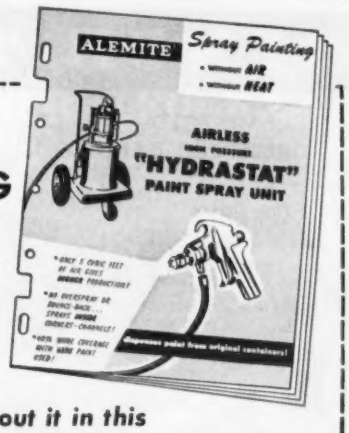

SPRAY PAINTING WITHOUT AIR WITHOUT HEAT

Read all about it in this

FREE ALEMITE HYDRASTAT CATALOG!

Alemite Airless Spray Systems give 40% more coverage per gallon, put paint on 80% faster! These two benefits add up to bigger profits. Get your share by choosing the right Hydrastat System from Alemite's complete selection. You'll find everything you need for fast, efficient, airless painting in the Alemite Hydrastat catalog. Send for your free copy right away!

Symbol of SW Excellence — ALEMITE DIVISION STEWART-WARNER CORPORATION

Dept. BH-81, 1850 Diversey Parkway, Chicago 14, Illinois

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PROTECT WITH GER-PAK®

Polyethylene

BAGS • LINERS SHEETING • TUBING

—industry's most versatile, low-cost material for packaging • shipping • storing

BAGS and LINERS

for drums, cartons, cans, pails
• Choice of bags and liners in rolls perforated for easy detachment, or handy flat individual liners • Up to 114 inches wide, no limit to length • Available gusseted or non-gusseted • Tie-off or peel-over construction

SHEETING

for shipping, storing, 101 in plant-uses
• Inexpensive tarps give all-weather protection for any size product in transit • As a pre-packaging material, eliminates need for special weather-tight containers • Comes in seamless widths up to 40 feet wide

TUBING

as covers, sleeves, containers
• Lay-flat tubing in a wide variety of lengths, widths, thicknesses to meet all requirements • For positive end-sealing: either heat seal or use new, super-adhesive GER-PAK Polyethylene MIRACLE TAPE

GERING PLASTICS
division of STUDEBAKER-PACKARD CORP.
Kenilworth, N. J.

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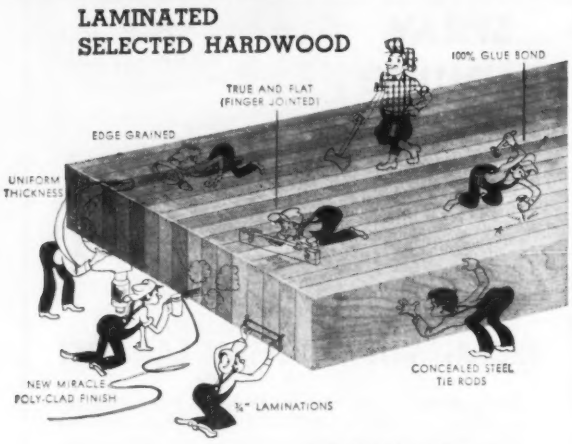
BENCH TOPS

LAMINATED
SELECTED HARDWOOD



• Tolerton tops are available from 1¼" to 4" thick, in widths and lengths to meet any requirement. Maple or steel base units also available in wide variety of sizes and styles. Write for technical, descriptive brochure.

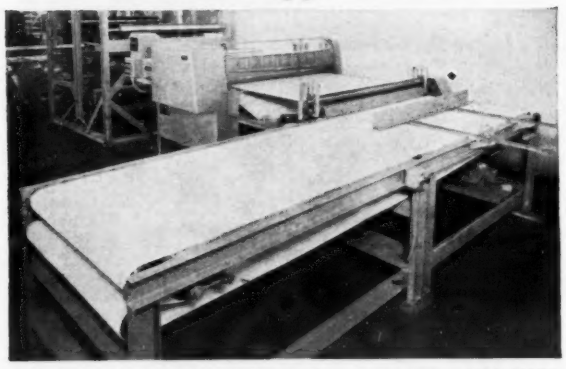
Established 1894
TOLCO THE TOLERTON COMPANY
265 N. Freedom Avenue • Alliance, Ohio

For more details circle NED-791 H1 on enclosed inquiry slip

What are your automatic cutting requirements?

HOBBS Cutting Equipment

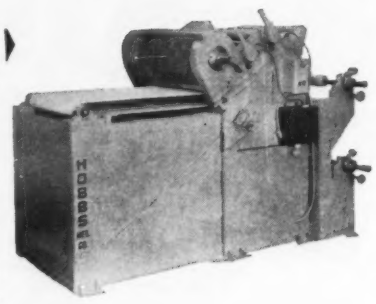
can satisfy them

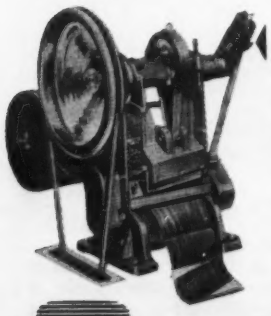


HOBBS AUTOMATIC SLITTER, CUTTER, STACKER AND CONVEYOR custom built for a prominent converter of asbestos, rubber and cork materials up to 60" wide. Automatically slits into various widths, chops to predetermined lengths and deposits material on conveyor belt for transfer to receptacle.

HOBBS ROTARY CUTTER

Automatically cuts, in a wide range of speeds, predetermined lengths (2" to 60") of materials from 24" to 60" wide, either from independent rolls, or in synchronization with other machines.





HOBBS AUTOGIL

Automatically cuts plastics, paper, felt, rubber, textiles and thin metals up to 3/16" thick, 5" to 24" wide, and in lengths up to 96" with speeds up to 126 cuts per minute. Made in 3 sizes and 2 styles.

Literature on request. Please state in which machine, or machines, you are interested.

HOBBS Manufacturing Company
EST. 1903
41H Salisbury Street, Worcester 5, Mass.
Direct sales offices in Irvington, N. J., Columbus, O., Chicago, Ill. and Los Angeles, California
Representatives in Cleveland, O., Louisville, Ky., Greenville, S. C. and Toronto, Ont., Canada

WINDERS • HAND & POWER SHEARS • SLITTERS
AUTOMATIC CUTTERS • DIE PRESSES 453-0

For more details circle NED-792 H1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Electrical Measuring Instruments

FREE Associated Research, Inc.—Instruments for measuring high voltage breakdown, dielectric strength, insulation resistance, ground resistance, and earth resisitivity are described and illustrated in 12-page Bulletin 10-1.3. Section is devoted to instrumentation for automated testing of electrical components, cables, switchgear, and circuits of complex assemblies.

For more details circle NED-793 H1 on enclosed inquiry slip

Laboratory Instruments & Appliances

FREE Fisher Scientific Co.—Details on the application and operation of laboratory glassware washers are presented in 8-page illustrated Bulletin FS-215. The Fisher-Wheeler sieve shaker which gives reproducible shaking rates of 500 to 900 per minute for particle sizing is subject of 8-page illustrated Bulletin FS-221. Precise temperature control and reproducible rotation rates are features of the MacMichael viscosimeter, discussed in illustrated 8-page Bulletin FS-217.

For more details circle NED-794 H1 on enclosed inquiry slip

Liquid Loaders

FREE OPW-Jordan Corp.—Any bulk fluid that will flow through a pipe can be loaded or unloaded from tanks, tank trucks, and tank cars with liquid loaders, subject of 28-page illustrated Catalog LL. Seven basic types using three balancing systems are discussed. Specifications are included, along with data on what type to use where.

For more details circle NED-795 H1 on enclosed inquiry slip

Liquid & Gas Equipment

FREE Pfaudler Permutit Inc.—Pfaudler corrosion resistant process equipment, including heat exchangers, reactors, evaporators, centrifuges, dryer blenders, storage tanks, valves, pipe, and fittings are detailed in first half of 16-page Bulletin 1010 on liquid and gas handling and processing equipment. Other part is devoted to Permutit water and waste treatment equipment. Application information is presented.

For more details circle NED-796 H1 on enclosed inquiry slip

Ovens, Furnaces, Baths

FREE Blue M Electric Co.—Electric ovens, furnaces, Magni-Whirl baths, environmental cabinets, and related temperature control equipment are detailed in 64-page Catalog 600. Data given includes sizes, temperature ranges, voltages, and capacities. Sizes range to 96 cu ft and temperatures to 2800° F.

For more details circle NED-797 H1 on enclosed inquiry slip

Small-Business Handbook

"Profitable Management for Main Street" is a 48-page guidebook on small business management. It cites cases, conducts the reader through typical small-business setups, and discusses the reasons for success or failure. Such factors as operating ratios and a formula for successful management of a business are discussed. Though priced at $1, single copies are available free. They can be obtained only by writing on letterhead to Dun & Bradstreet, Inc., Public Relations Div., Box 803, Church Street Station, New York 8, N. Y.

For more details circle NED-798 H1 on enclosed inquiry slip

Time Control Manual

FREE General Time Corp., Haydon Div.—72-page "Basic Timing Instruction Manual" is a guide to time controls and circuitry. Included are simple as well as complex application diagrams, an explanation of basic time control principles, and details of available timing devices for machines, process, control, and other purposes.

For more details circle NED-799 H1 on enclosed inquiry slip

Simplified Tap Selection

FREE Besly-Welles Corp.—The Besly Color-Keyed Tap Selector is a new idea that simplifies tap selection and purchase. This color-coding method speeds up the specification of the proper tap for 75 per cent of all tapping applications. System consists of a master chart and a 60-page Tap Selector booklet.

For more details circle NED-800 H1 on enclosed inquiry slip

Decimal Equivalent Chart

FREE Copperweld Steel Co., Ohio Seamless Tube Div.—Decimal equivalent chart DC-2, designed for quick conversion of Birmingham wire gages and fractions to decimals, measures 11 x 14 in. It covers wire gages from 36 to 1 and fractions from 1/64 to 63/64 in.

For more details circle NED-801 H1 on enclosed inquiry slip

LARGE WORK SPACE
Bench Oven 3' x 3' x 3'

Another
GRIEVE-HENDRY STANDARD

Well constructed, efficient Bench Oven with Large Work Space. Especially adaptable to production line work on large units that require heat processing. Work space 36" x 36" x 36". Temperature range to 350° F. 1250 CFM forced air circulation. Stand available. Construction changes to suit needs. No engineering charges. Write for Bulletin BH-300.

Specialists in Heat Process Equipment

Quick Quotations Prompt Delivery Reasonable Prices on Ovens Built to Specifications
OTHER STANDARD MODELS — TO 1000° F—
$121.50 AND UP

GRIEVE-HENDRY CO.
1353 N. Elston Ave., Chicago 22, Ill.

For more details circle NED-802 H1 on enclosed inquiry slip

Replacing belts too often?

Ask your local Gates Man to show how Gates Super HC Drives end drive troubles . . .

Because of exclusive design features, Gates Super HC High Capacity V-Belt Drive can often transmit the required power in ½ to ⅔ the space required by a conventional V-belt drive. This means a Super HC Drive can end your V-belt troubles where limited space has made necessary a marginal conventional drive.

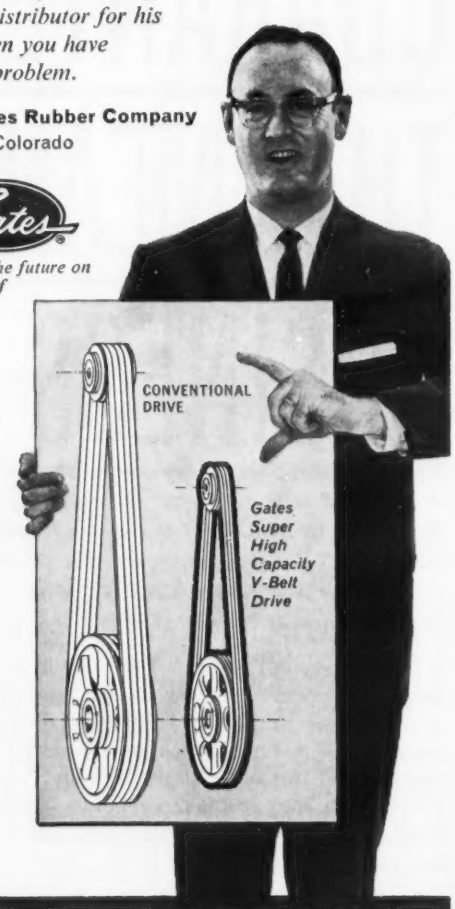
Gates Super HC Drives absorb machine-damaging vibration and shock. Multiple belts assure you of continuous operation, reducing costly machine down-time.

The Gates Man near you is a drive design expert. *Ask your nearby Gates Distributor for his help when you have a drive problem.*

The Gates Rubber Company
Denver, Colorado

Gates
Building the future on 50 years of progress

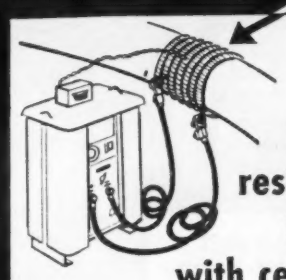
BP-51



Gates Super HC V-Belt Drive

For more details circle NED-803 H1 on enclosed inquiry slip

NEW IDEA
for preheating and stress relieving



ARCOS Heat-O-Coil resistance wire insulated with ceramic beads

• Low cost • Easy to apply • Ideal for field use • Uses standard welding equipment.

Write for bulletin

ARCOS CORPORATION
1500 S. 50th St., Philadelphia 43, Pa.

For more details circle NED-804 H1 on enclosed inquiry slip

Handles More Air
...with minimum pressure drop

Fewer parts...simplified locking ring provides positive lock... tight fit...minimum wear.

1/8" to 3/4" connections. All Series 2-RL Sockets and Plugs are interchangeable – likewise all Series 3-RL Sockets and Plugs. Eliminates any need for various size couplings in hook-up – makes it easy to keep stock of parts in balance – holds inventories to a minimum.

HANSEN SERIES RL QUICK-CONNECTIVE RING LOCK COUPLING

Write for Catalog – a ready reference when you want information on couplings in a hurry.

Instant Automatic Flow or Shut-Off

Representatives in Principal Cities ...See Yellow Pages

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

For more details circle NED-805 H1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

TANK LINING MATERIALS in sheet and liquid coating types

Hypalon sheet tank lining is available in cured and uncured states for application to various types of process tanks. Gaco H-150 uncured Hypalon lining compound is for application in shop or field where curing facilities are available. Hypalon H-5S cured sheet is available with air-curing adhesives. Also available is liquid Penton dispersion coating for lining in chemical services up to 250° F. • **Gates Engineering Co.**, Wilmington 99, Del.

For more details circle NED-807 H1 on enclosed inquiry slip

LOW-FOAMING SURFACTANT usable in cleaners and processing

Surfonic LF-6 and LF-7 are aliphatic alcohol-ethylene oxide adducts which have been modified by termination with a hydrophobic group to minimize foaming. This clear, pale yellow liquid is used to formulate products for mechanical dishwashers, laundry detergents, pulp and paper chemicals, metal cleaners, and other products requiring low foam. • **Jefferson Chemical Co.**, 1121 Walker Ave., Houston 1, Tex.

For more details circle NED-808 H1 on enclosed inquiry slip

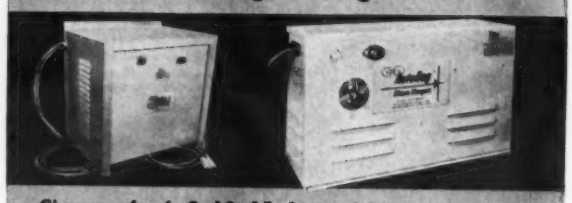
PRINTED CIRCUIT LAMINATE copper-clad epoxy paper type

Improved electrical properties, flexural strength, and flame resistance are afforded by Phenolite Grade EP-492-1 copper-clad epoxy paper laminate for printed circuit use. The cream-colored material is furnished in 39 x 39-in. and 39 x 47-in. sheet sizes, with 1 and 2-oz copper foil cladding. Average values of 1/16-in. base material are 23,000 to 25,000-psi flexural strength, 0.44-per cent water absorption in 24 hr, insulation resistance of 190,000 megohms, 1 to 3-sec extinguishing time after 30-sec exposure, and maximum operating temperature of 250° F. Dip solder resistance at 500° F is 15 to 20 sec. The 1/16-in. thickness with 1-oz cladding on one side is priced at $1.55 per square foot. • **National Vulcanized Fibre Co.**, 1061 Beech St., Wilmington 99, Del.

For more details circle NED-809 H1 on enclosed inquiry slip

USE ELECTRIC INDUSTRIAL TRUCKS?

Get simplified charging; lower maintenance costs with a C & D AutoReg® charger



Chargers for 6, 9, 12, 15, 16, and 18-cell batteries
Choice of overnight or 8-hour chargers

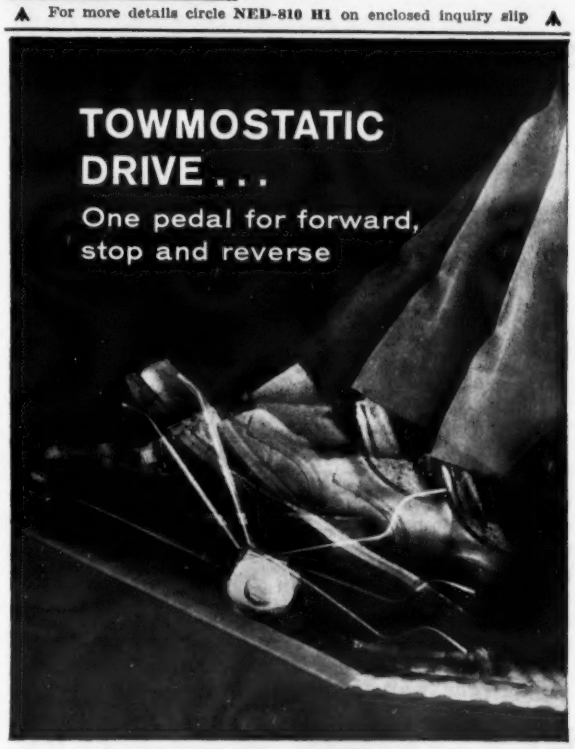
ALL MODELS
• Provide long, trouble-free life.
• Eliminate need for skilled personnel.
• Are fully automatic.
• Charge same number of cells with smaller A.H. capacity without adjustment.
• Eliminate aging adjustments.

C&D AutoReg Silicon Chargers

Write for complete details—
12-, to 18-cell batteries, Bulletin AR-109
6- and 9-cell batteries, Bulletin AR-110

A PRODUCT OF C & D BATTERIES DIV., THE ELECTRIC AUTOLITE CO. OF CONSHOHOCKEN, PA.

For more details circle NED-810 H1 on enclosed inquiry slip

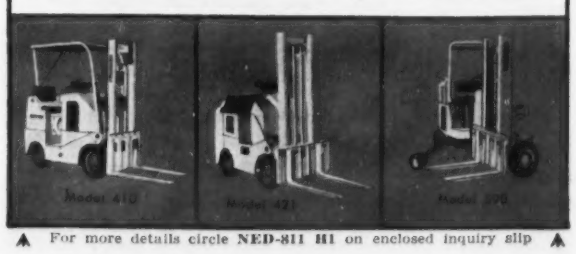


TOWMOTOR'S ON THE MOVE

—creating new uses for Towmotor Towmostatic Drive, the foot-controlled hydrostatic lift truck transmission originated by Towmotor engineers. On the move, applying this unique drive in designing unusual types of fork lift trucks that maneuver with great agility—that speed handling, utilize "lost" space, lower costs amazingly, perform many things impossible to do with conventional trucks. Keep on the move with Towmotor fork lift trucks—made only by TOWMOTOR CORPORATION, CLEVELAND 12, OHIO.

TOWMOTOR THE ONE-MAN-GANG®

Stroboscopic photo above illustrates how toe pressure on treadle moves lift truck forward instantly – how heel pressure results in smooth reverse travel – in units equipped with Towmotor Towmostatic Drive. This foot-controlled transmission is now available on 7 Towmotor fork lift trucks including the three new models pictured below.



For more details circle NED-811 H1 on enclosed inquiry slip

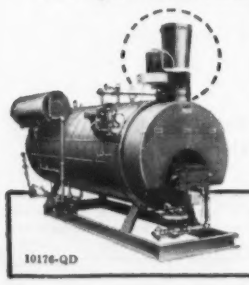
HIGHER COMBUSTION EFFICIENCY!
LOWER MAINTENANCE COSTS!
NO MOTORS, FANS OR BEARINGS IN EXHAUST LINE
PERFECT DRAFT-CONTROL BY Quickdraft

★ EXTREMELY HIGH NEGATIVE PRESSURES
★ ACID RESISTING FINISHES
★ HIGHLY EFFICIENT WITHOUT CHIMNEY

Patents
U.S. 2,722,372 and 2,855,874
British 802,920
Canadian 593,817
Other patents pending

FOR INDUSTRY . . . Now you can boost the combustion efficiency of your boilers, regardless of the fuel you use. Quickdraft power-draft units provide instant controlled draft and completely remove all combustion, corrosive and noxious fumes at high temperature without passing them through the blower and motor. Maintenance costs are drastically reduced. Specify a Quickdraft unit to meet your particular requirements from a wide selection of various sizes.

FOR INSTITUTIONAL AND COMMERCIAL BUILDINGS . . . Quickdraft eliminates costly, tall and unsightly stacks. Vent incinerators, heating plants and water heaters at roof level . . . safely and efficiently.



FOR CORROSIVE SERVICE
All Quickdraft units are available in standard acid resisting vitreous enamel, 316 stainless steel, carpenter 20 rigid plastics (P.V.C), and with plastic or Fiberglas coatings.

One of many actual installations with or without chimney.

10176-QD

Write for QUICKDRAFT ENGINEERING DATA on your letterhead . . . today

Quickdraft CORPORATION
P. O. Box 87-L, Canton 1, Ohio

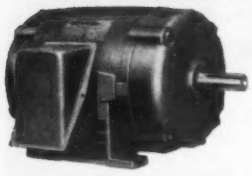
MANUFACTURERS OF ALL TYPES OF MATERIAL HANDLING UNITS WITH EXTREMELY HIGH VELOCITIES.

For more details circle NED-806 H1 on enclosed inquiry slip

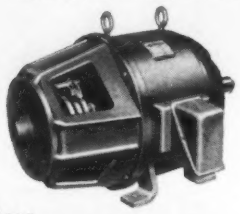
The <IMPERIAL> Line

MOTORS • GENERATORS • MOTOR-GENERATOR SETS

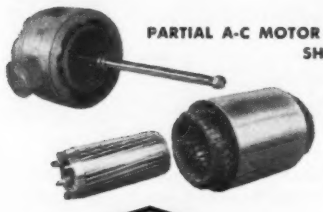
BEST POWER FOR STANDARD AND SPECIFIC-PURPOSE APPLICATIONS



DRIP-PROOF A-C MOTOR—*Today's Best Buy for Most Applications—Ratings from 1 to 200 Hp.—Designs Include Flange and Face Types, Multi-Speed, etc.*



WOUND-ROTOR MOTOR—*Open Construction—Allows Easy Access for Inspection and Excellent Ventilation and Self-cleaning Action—From ½ to 150 Hp.*

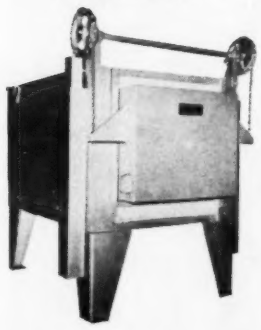


PARTIAL A-C MOTOR . . . SHELL-TYPE SHAFTLESS MOTOR . . . *Other Special or Specific Types . . . Provide Maximum Power in Minimum Space . . . Blend with Basic Design of Machines.*

<IMPERIAL> ELECTRIC COMPANY
84 Ira Avenue • Akron 9, Ohio

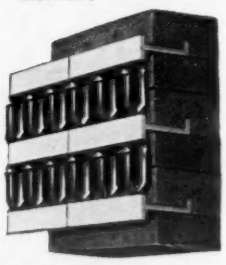
For more details circle NED-812 H1 on enclosed inquiry slip

SOLVE HEATING PROBLEMS FOR CHEMICAL PROCESSING • DRYING • ACTIVATING



ONLY TRENT BOX TYPE FURNACES offer these performance advantages:

- Clean, Uniform Heat to 1260°C.
- Operate from Standard Voltages
- Standard Switches and Controls
- Require No Transformers
- TRENT "Folded and Formed" Electric Heating Element



Continuous "Folded and Formed" ribbon element faces the work chamber—gives up to 4 times the radiating area per given sections than ordinary types! Discuss your heating problems with TRENT engineers.

WRITE FOR BULLETIN 75-TD

TRENT INC.
Electrically Heated Industrial Equipment

251 Leverington Ave., Phila. 27, Pa.
In Canada
Pioneer Electric Eastern Ltd.
Toronto

For more details circle NED-813 H1 on enclosed inquiry slip

SPEED SWEEP OUTLASTS ORDINARY BRUSHES 3 TO 1

GUARANTEE
Speed Sweep brushes are fully guaranteed. Your money will be refunded in full if they do not meet your requirements.

The unbeatable combination of highest quality materials and workmanship plus the many special long-life features built into each Speed Sweep brush mean significant savings to you. You'll save money *two* ways with Speed Sweep — on reduced labor costs and on less frequent brush replacement. Send the attached coupon now for complete information.

MILWAUKEE DUSTLESS BRUSH CO.

MILWAUKEE DUSTLESS BRUSH CO.
530 N. 22nd St., Milwaukee, Wis.
Send complete facts on Speed Sweep to:
FIRM NAME
SIGNED BY
ADDRESS
CITY STATE

For more details circle NED-814 H1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Contract Manufacturing Services

FREE Paraplegics Mfg. Co.—"Manual of Facts" on subcontract manufacturing services is a 16-page booklet that deals with the "to build or buy" problem that confronts many companies. A five-point program outlined affords aid in reaching a decision. Facilities for the manufacture of aircraft assemblies, cables, computer assemblies, printed circuits, stampings, and other items are covered.

For more details circle NED-815 H1 on enclosed inquiry slip

Tools for Screw Machines

FREE Mueller Industries—Specifications and prices on centering tools, revolving stops, turret bushings, full-floating reamer bushings, drill holder bushings, and slotting bushings and adapters for standard screw machines are found in illustrated brochure.

For more details circle NED-816 H1 on enclosed inquiry slip

Coolant Systems, Vises, Jaw Blanks

FREE Morton Tool Co.—Soft chuck jaw blanks; alloy studs, nuts, and washers; drilling, milling, and jig vises; coolant pumping systems; and filtered cleaning systems are described in illustrated folder. Dimensions are included, together with templates on the jaw blanks and cam locking jig vises.

For more details circle NED-817 H1 on enclosed inquiry slip

Spiral Bevel Speed Reducers

FREE Hewitt-Robins, Inc.—Advantages of spiral bevel design speed reducers, including space economy, investment and operating economy, and low maintenance, are cited in 32-page illustrated Bulletin J-25. Included is information on basic types, applications, selection procedure, horsepower and thermal ratings, and dimensions.

For more details circle NED-818 H1 on enclosed inquiry slip

Industrial X-Ray Films

FREE Gevaert Co. of America—Comparison tables on five Structurix industrial x-ray films and sensitometric curves for each of them are contained in 25-page illustrated handbook. Other charts show suggested exposures for magnesium, aluminum, steel, and bronze, and for cobalt 60 and iridium 192 with steel.

For more details circle NED-819 H1 on enclosed inquiry slip

Solenoid Valves for Corrosive Uses

FREE Valcor Engineering Corp.—List of over 500 corrosive chemicals commonly used in industry, seven pages of solenoid valve selection charts, diagrams of available configurations, and a flow vs. pressure drop chart are found in comprehensive 16-page Manual 108, "Solenoid Valve Selections for Corrosive Applications."

For more details circle NED-820 H1 on enclosed inquiry slip

Sectional Laboratory Furniture

FREE Will Corp.—Willab line of sectional laboratory furniture includes cabinets, counter tops, tables, desks, lockers, fume hoods, sinks, carts, and chairs. The dimensionally standardized units, subject of 24-page illustrated Catalog LF61, may be rearranged at any time to suit changing requirements.

For more details circle NED-821 H1 on enclosed inquiry slip

Selecting the Right Lock Washer

FREE Illinois Tool Works, Shakeproof Div.—Advantages of each type of standard lock washer are mentioned in the 12-page illustrated folder, "How To Select the Right Lock Washer To Meet Job Requirements." Types of applications for which each is best suited are listed.

For more details circle NED-822 H1 on enclosed inquiry slip

Centralized Lubrication Systems

FREE Lincoln Engineering Co.—Fully automatic, semiautomatic, and manual types of centralized lubrication equipment are detailed in illustrated 32-page Catalog 82. High and low pressure lubricant injectors, timing and alarm controls, and filler pumps are described, as are many accessories.

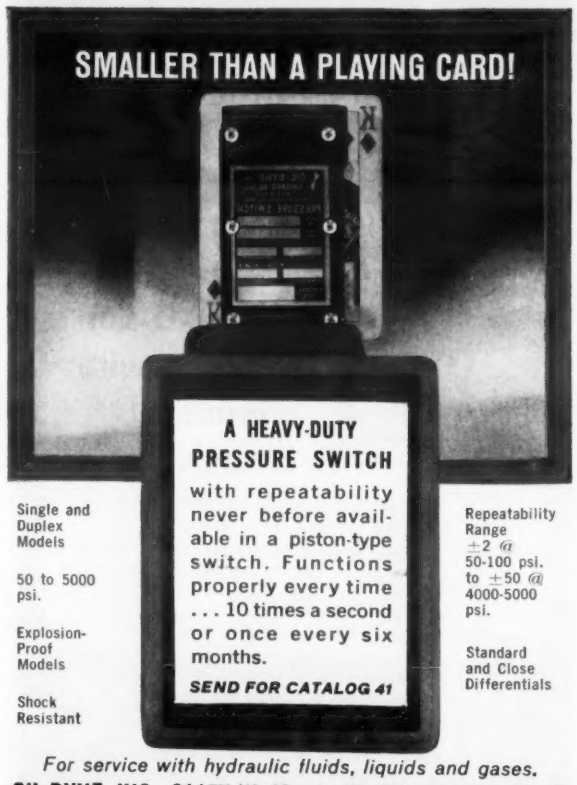
For more details circle NED-823 H1 on enclosed inquiry slip

Springs for the Designer

FREE Timms Spring Co.—Illustrated with a wide range of samples from actual production, this 16-page "Spring Handbook" discusses precision springs of many types. Included are simple compression, extension, and torsion springs, Belleville, wave, and finger type washers, and four-slide parts and nonferrous specialties. Design formulas are explained.

For more details circle NED-824 H1 on enclosed inquiry slip

SMALLER THAN A PLAYING CARD!



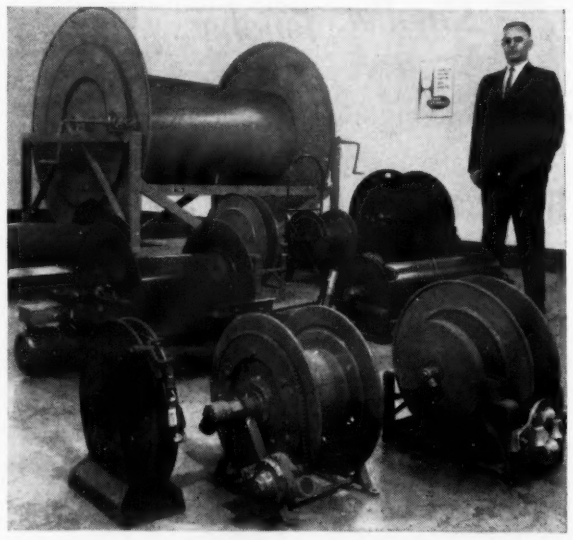
Single and Duplex Models
50 to 5000 psi.
Explosion-Proof Models
Shock Resistant

Repeatability Range ±2 @ 50-100 psi. to ±50 @ 4000-5000 psi.
Standard and Close Differentials

For service with hydraulic fluids, liquids and gases.

OIL-DYNE, INC., 2115X W. Marquette Rd., Chicago 36, Ill.

For more details circle NED-825 H1 on enclosed inquiry slip



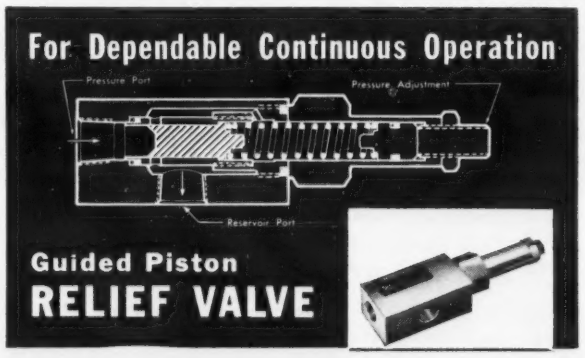
Hannay builds the reel you need for faster, safer, lower cost handling of hose and electric cable. Use reader service card for complete information.

REELS BY HANNAY

CLIFFORD B. HANNAY & SON, INC., WESTERLO, N. Y.

For more details circle NED-826 H1 on enclosed inquiry slip

For Dependable Continuous Operation



Guided Piston
RELIEF VALVE

- Long Life—hardened parts
- Accurate Low Pressure Regulation
- Compact
- Quiet
- Fast Response
- Adjust Ranges: up to 600 psi
- For Oil
- Flows: to 20 gpm
- Pipe Sizes: ¼", ⅜", ½", ¾" and 1" NPTF

Write for detailed Literature

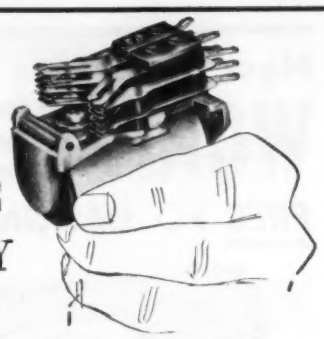
Fluid Controls, inc.

Manufacturers of Hydraulic Valves and Devices
Relief Valves • Check Valves • Restrictor Valves
Needle Valves • Pilot Check Valves • Special Valves
Pressure Compensated Flow Regulators

P. O. Box 186 • Mentor, Ohio • BL 5-3426

For more details circle NED-827 H1 on enclosed inquiry slip

this P&B TELEPHONE TYPE RELAY will give you 100 MILLION OPERATIONS



Medium coil LS relay has bifurcated contacts and stainless steel hinge bearing that assure a minimum of 100 million operations (mechanical).

Heavy-duty frame maintains dimensional stability . . . adds to relay sensitivity and long life. Available with up to 24 springs (12 per stack). Can be furnished with either operate or release delay slugs.

SPECIFICATIONS

COIL:
Voltage: DC: to 220V.
Power: @ +25°C 65 MW/movable arm min. 5 watts max.
Resistance: DC: 55,000 ohms max.

CONTACTS:
Max. No. Springs: DC: 24 (12/stack).
Contact Material: 1/16" dia. twin palladium
Rating: 4 amps @ 115V.60 cycle resistive (100,000 cycles) DC: 4 amps 150 watts
Mechanical Life: 100 million min.

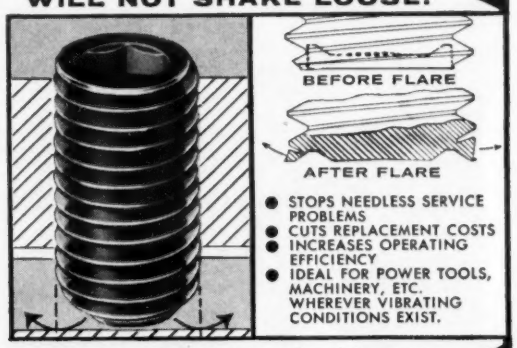
DIMENSIONS:
Min: 2 1/8 x 1 1/16 x 1 5/32
Max. 2 1/8 x 1 1/8 x 1 55/64

P&B STANDARD RELAYS ARE AVAILABLE AT YOUR LOCAL ELECTRONICS PARTS DISTRIBUTOR

POTTER & BRUMFIELD
DIVISION OF AMERICAN MACHINE & FOUNDRY COMPANY • PRINCETON, INDIANA
IN CANADA: POTTER & BRUMFIELD, DIVISION OF AMF CANADA LIMITED, GUELPH, ONT.

For more details circle NED-828 H1 on enclosed inquiry slip

new setko FLARE-LOK SET SCREW WILL NOT SHAKE LOOSE!



- STOPS NEEDLESS SERVICE PROBLEMS
- CUTS REPLACEMENT COSTS
- INCREASES OPERATING EFFICIENCY
- IDEAL FOR POWER TOOLS, MACHINERY, ETC. WHEREVER VIBRATING CONDITIONS EXIST.

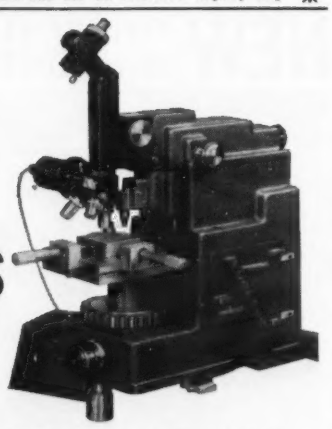
HERE'S HOW IT WORKS: The point of the FLARE-LOK set screw is specially formed to flare out when it is tightened against a bearing surface. The thread gap is closed just enough to prevent loosening or shaking free due to vibration, etc. Yet, the screw may be removed without damaging the mating threads. You can get them in hex socket, slabbed or slotted heads.

WRITE FOR FREE "FLARE-LOK" TEST SAMPLES and full information TODAY.

SETKO Set Screw & Mfg. Co.
130 Main Street, Bartlett, Illinois

For more details circle NED-829 H1 on enclosed inquiry slip

Kentron* micro hardness tester



OFFERS SPEED, EASE, PRECISION

Whether you're in Research or Production, the handy load-changing (1 to 10,000 gm), the precision stage that centers indent under 'scope and the Knoop or Vickers diamond indenter all make micro hardness testing faster, easier and more precise than you ever knew it could be. Test any solid for hardness, mounted or unmounted. Choose 2-1/2" or 8" vertical capacity.

For a demonstration, write Dept. NEDK-861

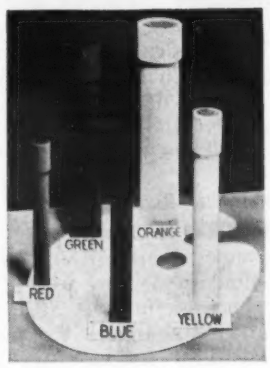
Riehle®
RIEHLE TESTING MACHINES DIVISION OF American Machine and Metals, Inc.
EAST MOLINE, ILLINOIS

*Trademark

For more details circle NED-830 H1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

COLOR-CODED STEEL CONDUIT polyvinyl coated in five colors



Sherarduct rigid steel conduit is now available with MVC-1 polyvinyl coating in choice of five coded colors, with matching elbows and couplings. Color coding provides an extra safety measure by warning of high voltage lines, and permits distinguishing electrical runs from telephone lines, or from other types of piping. Colors are baked on the conduit which has been protected against corrosion by Sherardizing, a galvanizing process in which zinc is actually alloyed to the steel walls and threaded ends. • **H. K. Porter Co.**, National Electric Div., Porter Bldg., Pittsburgh 19, Pa.

For more details circle NED-831 H1 on enclosed inquiry slip

INDUSTRIAL FABRIC is water, rot, and fire resistant

Made for exposure to any weather, Super Filmtex industrial fabric is waterproof, virtually rotproof, fire resistant, and withstands pressure. This inexpensive, pliable, workable material is usable for tarpaulins, luggage, canopies, boat and equipment covers, outdoor furniture, protective clothing, and material storage protection. It will support 500 to 600 times its weight. Fabric is available in 6, 8, 10, and 12-oz vinyl nylon and in 10-oz vinyl Dacron in eight bright colors. • **Howe & Bainbridge, Inc.**, 220 Commercial St., Boston, Mass.

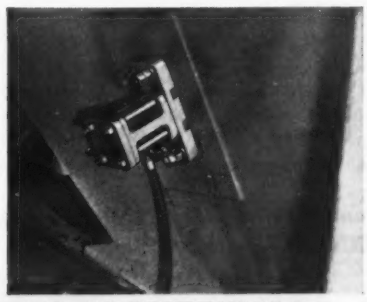
For more details circle NED-832 H1 on enclosed inquiry slip

PRINTED CIRCUIT LAMINATE has high tensile, flexural strength

Break resistant, glass fiber reinforced, copper clad Cimclad printed circuit laminate is easy to process and cold punches at room temperature. It is self-extinguishing when exposed to flame, and provides high tensile, flexural, and impact strength. Other properties are high insulation value, low moisture absorption, and good electrical properties, including a low loss factor. Etched and punched printed circuit for an auto radio is shown. • **Cincinnati Milling Machine Co.**, Cimastra Div., Marburg & South Streets, Cincinnati 9, Ohio.

For more details circle NED-833 H1 on enclosed inquiry slip

IF BINS WON'T BUDGE



LOOSEN STUBBORN MATERIALS . . .

that hold up production, waste man hours, with a Cleveland Model F Air Vibrator. Standard or air-cushioned for quiet operation, the Model F moves all types of materials from candy to concrete from bins, chutes and hoppers.

Inexpensive and dependable, a Cleveland Vibrator can be installed quickly and easily. With only one moving part, maintenance and lubrication are seldom needed.

Complete literature is available at your request, and a prompt quotation based on a description of your requirements will be sent with no obligation.

Air or Electric
Portable or Permanent
Silent or Standard

THE CLEVELAND VIBRATOR COMPANY
2744-8 Clinton Avenue • Cleveland 13, Ohio

For more details circle NED-834 H1 on enclosed inquiry slip

STOP COSTLY CORROSION DAMAGE TO PLANT FLOORS

SEND FOR THIS FREE BOOK TODAY!

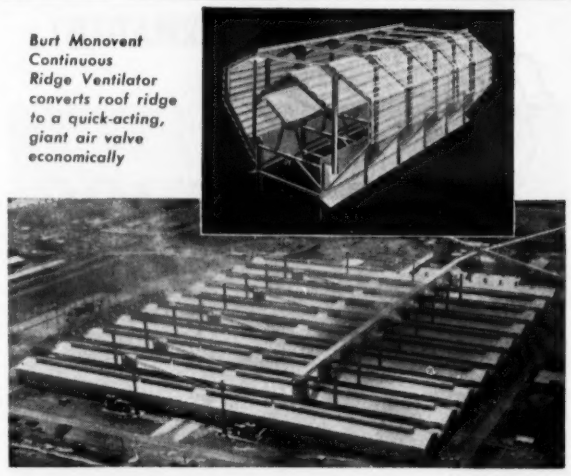
WITH COROCRETE MONOLITHIC FLOORING

Corocrete protects concrete floors from acids, alkalis and solvents. It costs less than acid-proof brick . . . takes less time to install . . . can be walked on 6 to 8 hours after application. Four times stronger than concrete, corrosion-resistant Corocrete is widely used in chemical, food processing, plating and metalworking plants. Send for complete information now.

CEILCOTE THE CEILCOTE COMPANY, INC.
4836 Ridge Road • Cleveland 9, Ohio

For more details circle NED-835 H1 on enclosed inquiry slip

Burt Monovent Continuous Ridge Ventilator converts roof ridge to a quick-acting, giant air valve economically



POT ROOM AIR MOVES OUT FAST AT REYNOLDS ALUMINUM

The huge new Reynolds Metals Company's aluminum plant at Sheffield, Alabama, conditions the air in each manufacturing operation with a carefully engineered system of modern Burt Ventilators.

On the pot lines, where the snow-white alumina powder is transformed into aluminum in a bath of molten cryolite—where great crucibles of molten metal swing down the aisles—84" aluminum Burt Monovents keep the air moving out fast. Over 7,200 lineal feet of this continuous ridge type Burt ventilator—more than 1-1/3 miles—ventilates the nine pot line buildings uniformly and economically. Nearly 400 lineal feet of 60" Burt Monovent conditions the service building.

Atop the adjoining rectifier building, with its thousands of square feet of electrical equipment, twenty-five 54" aluminum Burt Free Flow Fan and Gravity ventilators provide fast, big-volume exhaust.

Thirty additional aluminum Burt Free Flow Gravity ventilators serve the pin cleaning, coke and ore unloading and carbon paste buildings.

In the big Reynolds installation only two Burt ventilator types were required. Other types and sizes might better solve your air moving needs. You will find them all readily available in the complete line of time-proven, modern Burt Ventilators.

Send for FREE Data Book!

Write for Burt Data Book SPV-101-1-60 It supplies quick data on Burt's complete line of modern Roof Ventilators.

FAN & GRAVITY VENTILATORS
LOUVERS
SHEET METAL SPECIALTIES

The Burt Manufacturing Company
50 E. South Street Akron 11, Ohio

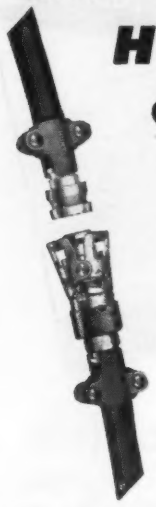
MEMBER AIR MOVING & CONDITIONING ASSOCIATION, INC.

For more details circle NED-836 H1 on enclosed inquiry slip

No Pressure "KICK-BACK"

with

HUNT valve couplings



Twist sleeve and pull . . . line pressure is cut off—down-stream air bleeds to atmosphere. Squeeze jaws and pull . . . coupling separates without dangerous kick-back. Sliding sleeve acts as valve and positive coupling lock.

Rugged construction . . . leak-free performance . . . full 360° rotation. For trouble-free, cost-cutting service, specify Hunt Quick-As-Wink® valve couplings. Sizes for ¼ through ¾ in. hose.

For complete information, write for Bulletin No. 593. Address Dept. NED-861, Hunt Valve Company, Salem, Ohio.

HUNT
QUICK-AS-WINK© AIR AND HYDRAULIC
VALVES
HUNT VALVE COMPANY • DIVISION OF IBEC • SALEM, OHIO

3003

For more details circle NED-837 H1 on enclosed inquiry slip

DON'T FIGHT DERMATITIS!

USE...

PEPCO

POWDERED HAND CLEANSER

CONTAINS—

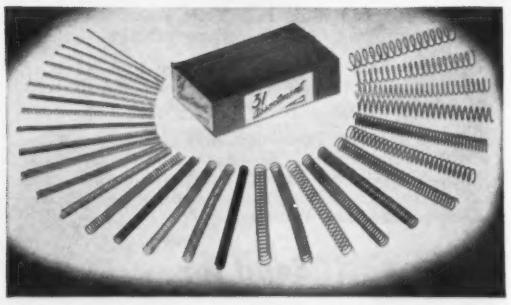
- LANOLIN Plus LECITHIN
- ANTISEPTIC-ACTAMER
- "PEP-COOL" Cooling Agent

SOLUBLE & NON-SOLUBLE TYPES

PECK'S PRODUCTS CO.
610 E. CLARENCE • ST. LOUIS 15, MISSOURI

For more details circle NED-838 H1 on enclosed inquiry slip

Stock SPRING assortments



Our #31 (compression) Spring Assortment folders are now available and yours for the asking. Our #28 (extension) Spring Assortment folders are also available. Ideal for tool rooms and maintenance work. To overcome the faults of ordinary assortments, which seem to contain "every spring except the one needed", design efforts were not confined to the springs alone; rather, loadings and dimensions were analyzed to assure the user of greater probability in having the correct spring on hand, whatever the application.
We also manufacture to special order.
Send samples or prints for quotation.

Find Your Nearest Paragon Agent In The Yellow Pages

PARAGON SPRING COMPANY
4619 W. Fulton St. • Chicago 44, Ill.

For more details circle NED-839 H1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Steel Design & Engineering

FREE United States Steel Corp.—Descriptions and comparisons of the types of modern constructional steels are contained in four papers which make up the 60-page illustrated brochure, "New Concepts in Steel Design & Engineering." Continuing advances in strength levels, product forms, and design applications are discussed. Illustrations of many actual designs and concepts are included.

For more details circle NED-840 H1 on enclosed inquiry slip

Vinyl & Rubber Parts

FREE Geauga Industries Co.—One-piece dual durometer (hard-soft) transfer molded parts, dual compound extrusions, semirigid vinyl extruded trim, and rubber extruded over rigid metal for electrical insulation are among the products described in 16-page illustrated brochure on molded and extruded vinyl and rubber parts. Many unusual extruded cross sections of vinyl and rubber are included.

For more details circle NED-841 H1 on enclosed inquiry slip

Pilot Lights of Many Types

FREE Dialight Corp.—Condensed technical information on a wide range of Dialco pilot lights is content of 24-page "Digest of Pilot Lights." Included are subminiature indicator lights, those with neon lamps, enclosed assemblies, oil-tight lights, dimmers, light shields, press-to-test indicator lights, and lens holders for panel mounting.

For more details circle NED-842 H1 on enclosed inquiry slip

Flexible Cushion Couplings

FREE Dodge Mfg. Corp.—Expanded line of Paraflex flexible cushion couplings includes the PX280 model with more than twice the torque capacity of the next smaller size, and a new PX90 intermediate size. Both have a tire-shaped flexing element. Twenty-four page illustrated bulletin describes sizes rated 0.3 to 400 hp per 100 rpm at a 1.0 factor for torques of 189 to 21,000 lb-in.

For more details circle NED-843 H1 on enclosed inquiry slip

Circuit Breaker Selector Disc

FREE Westinghouse Electric Corp., Standard Control Div.—Seven-inch diameter selector disc simplifies the choice of six basic types of De-ion circuit breakers. Size, number of poles, amperage and voltage, and interrupting ratings are given.

For more details circle NED-844 H1 on enclosed inquiry slip

Masonry Saws & Blades

FREE Cardinal Engineering Corp.—24-page pocket edition of the 1961 catalog of products for masonry, concrete, and stone cutting includes descriptions of several masonry and stone saws as well as a complete line of masonry-cutting diamond and abrasive saw blades.

For more details circle NED-845 H1 on enclosed inquiry slip

Chain-Flight Conveyor

FREE Screw Conveyor Corp.—Bulletin 751 contains 4 pages of technical and application data on the Super-Flo chain-flight conveyor for moving bulk materials along 6 to 24-in. wide troughs. Made in steel, stainless, or nonferrous metals, these conveyors will handle up to 16,200 cfh of free-flowing materials.

For more details circle NED-846 H1 on enclosed inquiry slip

Pumps for Feeding & Proportioning

FREE Frederic B. Stevens, Inc., Clark-Cooper Div. —Continuous, accurate metering of liquid flow is afforded by any of the several models of Controlled Capacity pumps described in 12-page Bulletin MP-29. These pumps meter delivery accurately within ±½ per cent. Simplex models range in capacity from 1 drop every 13 strokes to 1000 gph at pressures to 10,000 psi. Plunger and diaphragm types are offered to handle practically any fluid.

For more details circle NED-847 H1 on enclosed inquiry slip

Wetting Agents

FREE Nopco Chemical Co.—Uses for wetting agents in the fields of textiles, paper, metal processing, leather, protective coatings, and many special applications are covered in 16-page Bulletin ISP-45. Some of the surfactants described were developed for their wetting ability alone, and are employed where the end use involves rapid contact, spreading, or penetrating effects. Other products provide such auxiliary properties as lubricity, softening, rinsability, and foaming or lack of foaming.

For more details circle NED-848 H1 on enclosed inquiry slip

How to select WORM GEAR Drives

FREE TO DESIGN ENGINEERS

NEW Bulletin 218

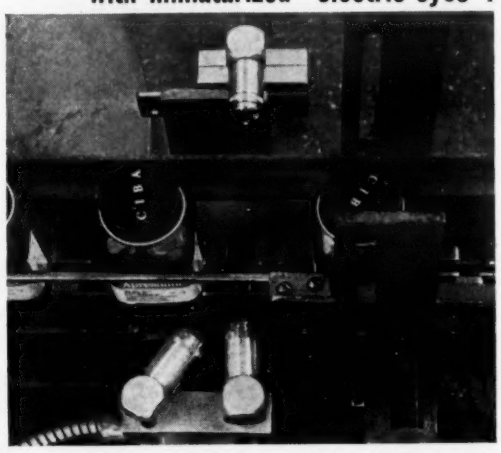
Complete up-to-date information on Cone-Drive double-enveloping worm gear drives. Provides all specification data plus "how to select and order".

CONE-DRIVE GEARS
DIVISION MICHIGAN TOOL COMPANY
7171 E. McNichols Rd. • Detroit 12, Michigan

For more details circle NED-849 H1 on enclosed inquiry slip

AUTOMATION at its best...

with miniaturized "electric-eyes"!



Here is a typical engineered job by PHOTOMATION. It is only one example of the many applications of miniaturized "electric-eyes" for inspecting, counting, registration, sorting, quality control and all phases of packaging.

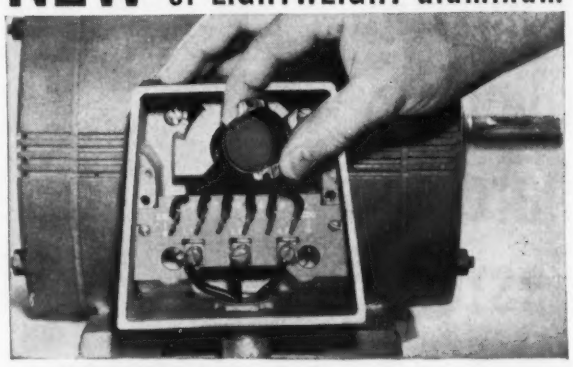
A complete staff of trained engineers is available for consultation. Prompt quotations and delivery.

Photomation Inc.
96 SOUTH WASHINGTON AVENUE, BERGENFIELD, NEW JERSEY

Write today for detailed information.

For more details circle NED-850 H1 on enclosed inquiry slip

NEW Franklin standard motors of LIGHTWEIGHT aluminum



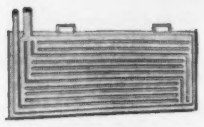
Built-in PROTECTOR SPACE SAVES TIME AND MONEY!

Both single phase *and polyphase* Franklin motors have a *built-in space* for inherent protectors. Protects the motor even under locked rotor conditions! Only the new Franklin motors, 1 to 7½ hp, have this cost-cutting feature. See them. And write Department NED-8 for free color brochure.

Franklin Electric Co., Inc.
BLUFFTON, INDIANA

For more details circle NED-851 H1 on enclosed inquiry slip

PLATECOIL®

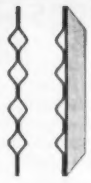


Standard PLATECOIL units

FACTORY-ASSEMBLED PLATECOIL banks

In factory-fabricated styles to fit your needs

ROLLED to specified diameters



SINGLE EMBOSSED OR DOUBLE EMBOSSED

The PLATECOIL units above are just a few of the many standard and special units that are effecting savings and better performance in a wide range of tank and process heating and cooling applications. If you are looking for faster heat up, more heat transfer in less space, savings on installation or maintenance or an answer to other heat transfer problems, it will pay you to investigate PLATECOIL.

"PLATECOIL" can be furnished to comply with ASME code.

Send for free BULLETIN P57 for more information.

PLATECOIL® DIVISION
TRANTER MANUFACTURING, Inc.
LANSING 9, MICHIGAN

▲ For more details circle NED-852 H1 on enclosed inquiry slip ▲

VIBRA-WASHER

...THE COMPLETELY NEW AUTOMATIC PARTS WASHER AND METAL CONDITIONING MACHINE

- Labor saving
- Automatic unloading
- For single or multi-stage operations
- No nesting of parts during cleaning or conditioning cycle
- Adjustable capacities to 10,000 lbs. per hour

The versatile new Simplicity VIBRA-WASHER, revolutionary machine for washing and conditioning of small metal parts, stampings and castings, employs a vibrating work carrier that automatically conveys parts through cleaning or conditioning bath. Solution is forced around parts, even into blind drillings and slots. In single stage, VIBRA-WASHER removes chips, oil and grease quickly . . . economically. In multi-stage, several units in line will provide cleaning, rinsing and phosphating, eliminating "between-stage" handling. Write today for Bulletin 107, to: Industrial Washer Division.

Simplicity TRADE MARK REGISTERED
212 ENGINEERING COMPANY • DURAND 15, MICH.

▲ For more details circle NED-853 H1 on enclosed inquiry slip ▲

NEW MATERIALS AND PROCESSES

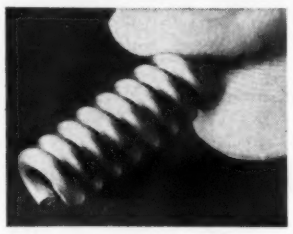
CERAMIC-LIKE FINISH
bonds to any porous surface

Sanitary, economical, decorative Epo Liquid Hi-Bild coating dries to a high-gloss ceramic-like resin finish. Applied with brush, roller, spray, squeegee, or trowel,

this nontoxic finish bonds permanently to any porous surface with less than 2 per cent shrinkage. Large voids can be bridged by using Fiberglas cloth. It is impervious to fumes, splash, or immersion in acids, alkalies, salts, steam, fungus, grease, and strong detergents. • **George E. Fines, Inc.,** 18640 Wyoming Ave., Detroit 21, Mich.

▲ For more details circle NED-855 H1 on enclosed inquiry slip ▲

STAINLESS SPRING WIRE
tensile is 290,000 psi and up



Potential applications for NS-355 high tensile, stainless, spring wire include jet engines, food and beverage equipment, and chemical machinery. In laboratory tests of 0.075-in. material, tensile strength was 100,000 psi higher than that of music wire. Guaranteed minimum tensile strength of 0.195-in. NS-355 is 290,000 psi. On automatic coiling machines, a spring index as low as 3 can be achieved without breakage. It is usable for extension and tension springs and is made with an oxide finish for automatic coiling down to 0.020 in. and in bright finish for torsion and four-slide work. It is offered in diameters from 0.003 to 0.195 in. • **National-Standard Co.,** Niles, Mich.

▲ For more details circle NED-856 H1 on enclosed inquiry slip ▲

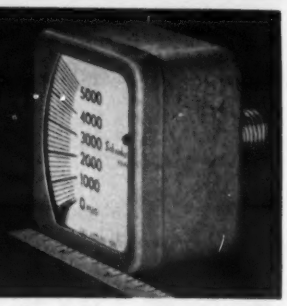
Thermocouples & Thermocouple Assemblies

FREE Pyro Electric, Inc.—Technical information on Pyrox metal-sheathed, ceramic-insulated thermocouples, conductors, heating elements, glow plugs, and precision assemblies are found in 8-page illustrated bulletin. Connectors, leads, junctions, and fittings which enable the user to design his own precision thermocouple assemblies are subject of supplementary 4-page illustrated Catalog PP-100.

▲ For more details circle NED-857 H1 on enclosed inquiry slip ▲

NEW LINE! DIRECT ACTION SCHRADER HYDRAULIC GAUGES

. . . Compact!



USE FOR: dependably accurate service and long cycling life. On all kinds of hydraulic systems and machines, even those toughest on gauges.

FEATURES: Specially designed built-in dampening device protects from rapid or pulsating pressure damage. Positive stop wards off failure caused by overloading and shock. Accessible adjusting device. Positive, spring-loaded direct action principle absorbs shock and overload that damage other types.

CONSTRUCTION: Completely enclosed in durable hammertone finished aluminum case. White, non-corrosive plastic dial face. Easy to read black calibrations. Replaceable internal parts are interchangeable. Has ¼ NPT male thread. Priced from $13.00 to $14.95.

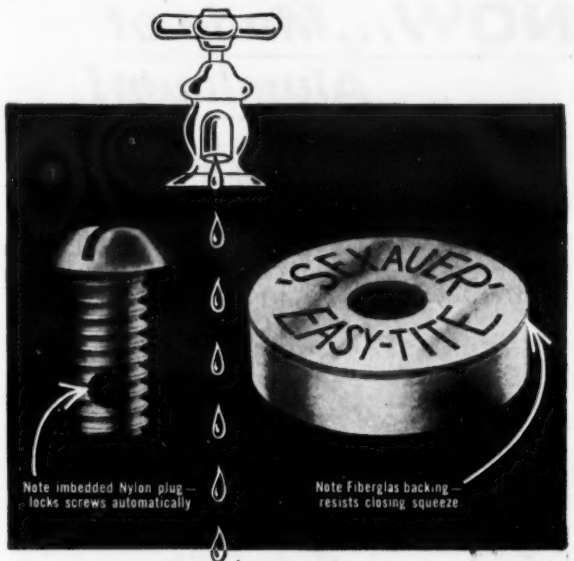
Schrader #	Pressure range PSI	Calibrations Numerals	Calibrations Lines
30019-0500	0-500	100 lbs.	20 lbs.
30019-1500	0-1500	300 lbs.	50 lbs.
30019-3000	0-3000	600 lbs.	100 lbs.
30019-5000	0-5000	1000 lbs.	200 lbs.

Your nearby distributor has them in stock now! Consult Yellow Pages or write for his address.

Schrader® a division of SCOVILL

A. SCHRADER'S SON
Division of Scovill Manufacturing Co.
459 Vanderbilt Ave., Brooklyn 38, N. Y.
QUALITY AIR CONTROL PRODUCTS

▲ For more details circle NED-858 H1 on enclosed inquiry slip ▲



New Way to Stop Faucet Leaks!

★ 9-in-10 washers are fastened with TOO LONG or SHORT SCREWS thus loosen and destroy themselves. Leaks quickly follow!

34 YEARS OF RESEARCH REVEALS NEW SOLUTION

★ New, patented 'Sexauer' SELF-LOCK screws have imbedded expanding NYLON PLUG. They lock at required depth AUTOMATICALLY, hold washers firmly! Made of MONEL, they are rustproof, non-corroding. Heads can't twist off. Screw slots can't distort.

★ NEW, improved 'SEXAUER' EASY-TITE faucet washers are made of super-tough, pliable du Pont compound (not rubber or fibre). Reinforced with a vulcanized layer of Fiberglas, they resist distortion and splitting from shut-off grind and squeeze.

★ Faucet leaks repaired with 'Sexauer' EASY-TITE faucet washers and SELF-LOCK screws outlast ordinary repairs "6-to-1"!

HIDDEN COSTS OF FAUCET LEAKS!

Hackensack, N. J. Water Co. and American Gas Association figures prove stopping just ONE PIN-HOLE SIZE (1/32") LEAK saves you 8,000 gal. water quarterly. A HOT WATER FAUCET LEAK repair saves you over $7.58 QUARTERLY in fuel and water bills. Fewer leaks also produce important savings on MATERIALS, LABOR and COSTLY FIXTURE REPLACEMENTS!

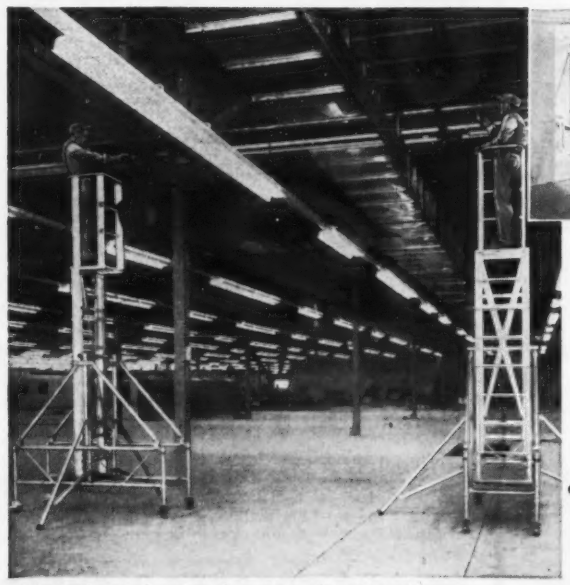
A 'Sexauer' Technician will make available our NEW Catalog, Edition "J", listing our entire line of over 3,000 TRIPLE-WEAR plumbing repair parts and tools. He will survey your fixtures, determine the repair parts needed and establish an efficient stock arrangement and control to prevent costly overstocking or shortages. You get this service without obligation. *Act now!*

J. A. Sexauer Mfg. Co., Inc., Dept. AU-81
2503-05 Third Ave., New York 51, N.Y.
Please send me a copy of your NEW Catalog "J"
Name_____ Title
Organization_____
Bus. Address_____
City_____ Zone_____ State_____

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

▲ For more details circle NED-859 H1 on enclosed inquiry slip ▲

20% labor savings on overhead installations with TALLESCOPE... telescoping aluminum scaffold



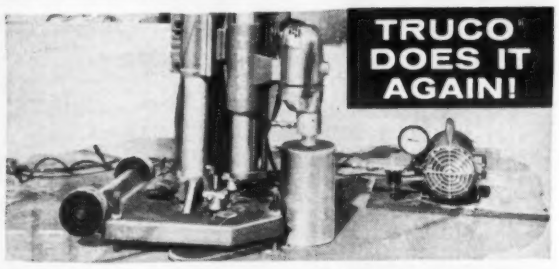
Western Electric Company plant, Kansas City, Missouri.

In overhead work on heating and ventilating systems, six Tallescope aluminum scaffolds saved 20% on total installation time. Units fold down to pass through doorways and under low ceilings, saving repeated assembly and disassembly of conventional scaffolds. Western Electric Company plant, Kansas City, Missouri. On all overhead maintenance, Tallescope gets men up in the air fast; lets them finish the job fast! Extends instantly for reaching heights up to 31 feet. Lightweight and quickly assembled without tools or loose parts.

Write for TALLESCOPE *circular*

UP-RIGHT SCAFFOLDS
DEPT. 145, 1013 PARDEE, BERKELEY, CALIFORNIA
In Canada: Up-Right Scaffolds, Ltd., 120 Russett St., Oshawa, Ontario

▲ For more details circle NED-854 H1 on enclosed inquiry slip ▲



Tru-Vac® Vacuum Pad anchors machine to drill 300 holes up to 6" O.D. in 9" extra hard aggregate with 4 to 6 rods per hole.

PROJECT: Methodist Hospital of Central Illinois, Nurses' Dormitory, Peoria, Ill. **EQUIPMENT:** Truco Model A Portable Diamond Drilling Machine; Truco Tru-Vac Vacuum Pad; Truco Diamond Drill Bits. **JOB:** drill nearly 300 holes in lift floor slabs 9" thick, extra hard aggregate, heavily reinforced with rods 1" to 1¼" dia.; most holes had 4 to 6 rods. Holes 2" to 4" for electrical services; 3" to 6" for water, sewer, fire lines.

No anchor holes allowed, no ceiling against which to jack telescoping center column of Truco machine. Contractor used Truco Tru-Vac Vacuum Pad to anchor machine to floor with up to 1000 actual pounds of vacuum. Holes averaged under 20 minutes each including set-up. Write for Bulletin SC-7.

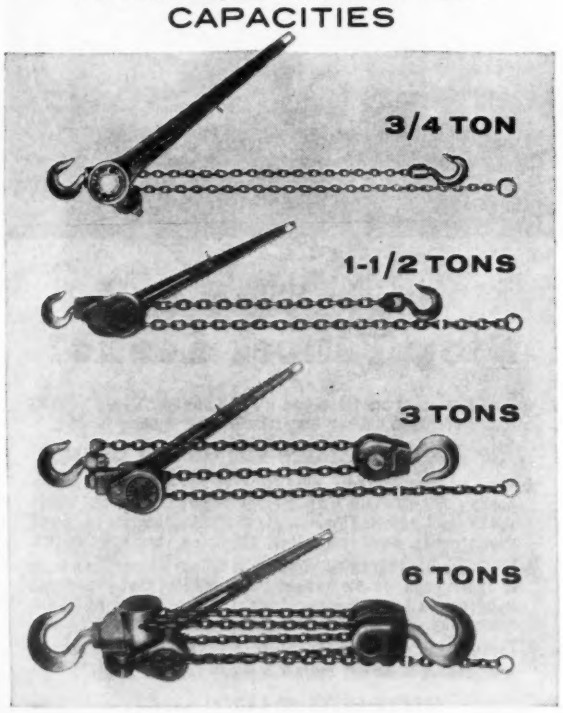
TRUCO MASONRY DRILLING DIVISION
Wheel Trueing Tool Company
202-320C W. DAVISON AVENUE • DETROIT 38, MICHIGAN

▲ For more details circle NED-860 H1 on enclosed inquiry slip ▲

NOW...Made of Aluminum!

WRIGHT Type "C" Pull-A-Ways

IN ¾, 1½, 3 AND 6 TON CAPACITIES



For easier portability at no sacrifice in proved performance, Wright now uses aluminum alloy castings for the gear case, handle and covers on all models of the Type "C" Pull-A-Way. Hooks, load chain and chain sheave are made of alloy steel as before. Truly versatile performers on hundreds of quick hook-up jobs, Type "C" Pull-A-Ways offer other outstanding features such as: positive load brake that securely holds the load at any point, lifetime lubrication of all internal parts, blocked chain to fit the load sheave with greater accuracy. Weights: ¾ ton, 12½ lbs.; 1½ ton, 23½ lbs.; 3 ton, 36½ lbs.; 6 ton, 63 lbs.

Write to our York, Pa., office for Bulletin DH-56

WRIGHT HOISTS

Wright Hoist Division • American Chain & Cable Company, Inc. ACCO

York, Pa., Atlanta, Chicago, Denver, Detroit, Houston, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

▲ For more details circle NED-861 H1 on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

Hole Punching Units

FREE Wales Strippit Inc.—Type BN self-contained hole punching units for up to 3½-in. diameter holes in flanged parts, angles, and sheets up to 10-gage mild steel are detailed in 12-page Catalog BN.

▲ For more details circle NED-862 H1 on enclosed inquiry slip ▲

Maintenance & Production Chemicals

FREE Turco Products, Inc.—"Specialized Chemical Processing Compounds for the Metalworking Industry" is the title of a 12-page brochure which suggests applications for 43 cleaning and processing compounds. Techniques are discussed for cleaning, phosphating, conversion coating, protective coating, paint and carbon removal, descaling, rust removal and prevention, aluminum processing, and plant maintenance.

▲ For more details circle NED-863 H1 on enclosed inquiry slip ▲

Assembling Electrically

FREE Black & Webster, Inc.—16 pages of details and suggestions on how to assemble products electrically are included in Catalog 75-A. Automatic and semiautomatic equipment for swaging, staking, riveting, punching, marking, and terminal setting is described, as is tooling for various operations.

▲ For more details circle NED-864 H1 on enclosed inquiry slip ▲

Power Transmission Equipment

FREE T. B. Wood's Sons Co.—Condensed Catalog 23103 contains brief descriptions of V-belt, Ultra-V, and fractional horsepower drives; timing-belt drives; flat belt pulleys; variable speed drives; motor bases; flexible couplings; bushings; bearings; pillow blocks, and related equipment.

▲ For more details circle NED-865 H1 on enclosed inquiry slip ▲

Strip Mill Products

FREE Mill Strip Products Co.—70-page reference book gives basic data and information on strip steel, spring steel, shim stock, electrolytic galvanized strip, and flat wire products. Tables, definitions, and other technical information is given to aid in selection, ordering, and application of various materials for specific needs.

▲ For more details circle NED-866 H1 on enclosed inquiry slip ▲

Tiny Electromechanical Devices

FREE Autotronics Inc.—Offered as a handbook on electromechanical devices, 60-page Manual No. 361 deals with electromagnetic clutches and brakes, mechanical clutches, torque indicators, torque standards, and multispeed transmissions. Charts and engineering data to aid in selection and application are included.

▲ For more details circle NED-867 H1 on enclosed inquiry slip ▲

Unitized Tooling for Presses & Brakes

FREE Tool Products Corp.—1961 catalog and price list is descriptive of unitized hole punching, notching, mounting, gaging, and accessory equipment for use on punch presses and brakes. Standard and special shapes of punch and die units are shown.

▲ For more details circle NED-868 H1 on enclosed inquiry slip ▲

Flexible Metal Hose Guide

FREE Atlantic Metal Hose Co.—How to rate hose working pressures, nonsteady pressures, elevated temperatures, and proper fittings are some of the subjects covered in 32-page "Flexible Metal Hose Guide." Construction, materials, and applications for various types of Atlantic flexible metal hoses are covered.

▲ For more details circle NED-869 H1 on enclosed inquiry slip ▲

Color Coding Enamels

FREE Reynolds Ink, Inc.—Eighteen of the more popular colors of fast-drying spray type enamels for color coding inventory stocks and work in process; for identifying piping, electrical connections, fire and water valves, and similar purposes; for inter-plant routing; and for other color coding operations are shown in actual chips on "Color Card of Color Coding Enamels."

▲ For more details circle NED-870 H1 on enclosed inquiry slip ▲

Industrial Sanitation Supplies

FREE Lien Chemical Co.—118-page spiral-bound catalog of sanitation supplies and equipment for all commercial and industrial needs offers a wide selection of materials for floor maintenance, including cleaners, waxes, and floor conditioners. Also described are janitorial supplies and chemicals and equipment for pest control.

▲ For more details circle NED-871 H1 on enclosed inquiry slip ▲

NIAGARA Air-Cooled Heat Exchangers Bring You Extra Savings

Your Niagara Aero Heat Exchanger sets you free from dependence on a costly cooling water supply and solves the problem of water disposal. It pays for itself quickly and its long-lasting quality and dependability keep it constantly saving money for you and adding to your profit.

This Niagara design also saves you much labor and money in installation and upkeep. Its cleanable coils are easily accessible, as are all interior parts. Its panels are removable for cleaning and painting. It is easy and inexpensive to keep in "new machine" condition.

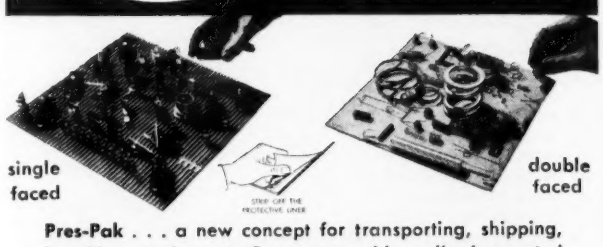
Niagara Aero Heat Exchangers have been making good records as revenue producers and cost savers for their owners for more than thirty years. Use them wherever you need to cool a liquid or a gas in industry.

Write for Bulletins 120 and 132.

NIAGARA BLOWER COMPANY
Dept. ED-8, 405 Lexington Ave., New York 17, N. Y.
Niagara District Engineers in Principal Cities of U. S. and Canada

▲ For more details circle NED-872 H1 on enclosed inquiry slip ▲

new idea! ...for shipping, storing and handling of parts & products



Pres-Pak . . . a new concept for transporting, shipping, handling, storing, etc. Pressure-sensitive adhesive coated board provides a simple solution to a thousand problems in production, shipping and inter-plant transport. Ideal for electronic components, wireforms, springs, fragile abrasives, etc. Available in single and double faced corrugated and chip board with light, medium and heavy adhesive coatings.

Write today for prices and technical assistance on the modern Pres-Pak method.

DEALER INQUIRIES INVITED, ALSO!

PRES-ON PRODUCTS CO.
FACTORY ROAD • ADDISON, ILLINOIS

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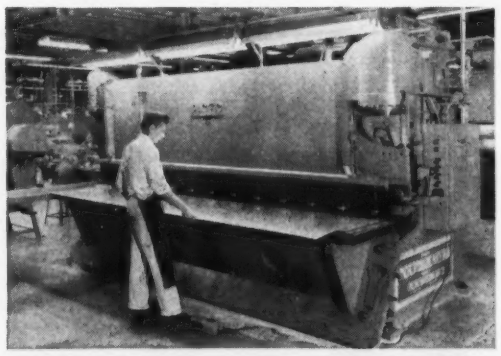
PACIFIC HYDRAULIC...THE VERSATILE SHEAR that cuts heavy plate or tissue-thin metal within thousandths of inch

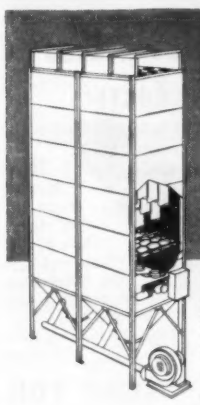


Pacific Hydraulic is a general purpose shear handling a complete range of metal thicknesses within capacity. With both knife clearance and rake angle quickly and easily adjustable, shear can be used alternately for heavy duty plate work or fast, accurate shearing of thin sheet. At Alameda Naval Air Station, ⅜" Pacific Shear (above) is quickly set to .001" knife clearance for .005" sheet and reset rapidly and easily for cutting plate up to ⅜" thick. In any plant, large or small, a single Pacific Hydraulic will shear a complete range of metal thicknesses at substantial savings in capital investment and operating costs.

Write for brochure.

PACIFIC PRESSES & SHEARS
848 - 49TH AVE., OAKLAND, CALIF.: also MT. CARMEL, ILL.

▲ For more details circle NED-874 H1 on enclosed inquiry slip ▲



Clears your dust problems with 99%-PLUS efficiency!

DUALAIRE

Jet-Cleaned Filter

In your operation, if filtration is judged the best way to clean incoming air — or remove dust and fumes from exhaust air and gas — a **Dualaire** by Western Precipitation will do the job best.

Constantly efficient . . . at virtually 100% . . . the **Dualaire** cleans itself — without jarring or rapping. It uses the patented Hersey reverse air-jet method — assuring minimum maintenance and economical operation.

WRITE FOR MORE INFORMATION to Western Precipitation, 1000 W. 9th St., Los Angeles 54, Calif. (In Canada, write 8285 Mountain Sights Ave., Montreal, P. Q.)

DUST AND FUME CONTROL SINCE 1907

WESTERN PRECIPITATION

DIVISION OF JOY MANUFACTURING COMPANY

▲ For more details circle **NED-875 H1** on enclosed inquiry slip ▲

ROLL-A-REEL 4626 Reading Road Cincinnati 29, Ohio

▲ For more details circle **NED-876 H1** on enclosed inquiry slip ▲

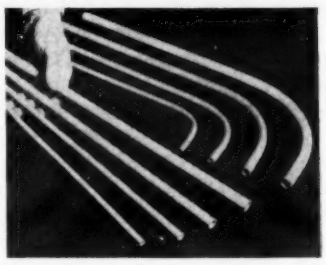
NEW MATERIALS AND PROCESSES

THIN-WALL BRONZE BARS with 1/8 and 3/16-in. walls

Offered for machining to nominal sizes, line of SAE-660 thin - wall bronze bars is made by the Continucast process in 1/8 and 3/16-in. wall thicknesses. They have standard 1/32 in. over on the OD and 1/32 in. under on the ID and are available in stock lengths of 105, 52½, 26¼, and 13 in. This line is reported to afford economies on certain uses because it is unnecessary to machine excessive stock from the bars. • **Johnson Bronze Co.**, 580 S. Mill St., New Castle, Pa.

▲ For more details circle **NED-878 H1** on enclosed inquiry slip ▲

PLASTIC LAMINATED TUBING for electrical insulation purposes



Paper and cloth-based postformable Micarta tubing are new grades added to this line of thermoplastic laminated tubing. Both will soften when heated for 5 min at 135 to 150° F. It can then be given a permanent configuration. At room temperature it is rigid and meets NEMA LE-standards of chemical resistance and stability. Compressive strengths are 18,500 psi for paper-based grade and 23,300 psi for cloth-based type. Dielectric strengths are 700 v/mil and 341 v/mil respectively, with corresponding water absorption of 2.1 and 0.8 per cent. Sizes range from 1/8 to 1-in. ID; wall thicknesses, 1/32 to 3/16 in.; and length is 46 in. • **Westinghouse Electric Corp.**, Micarta Div., Hampton, S. C.

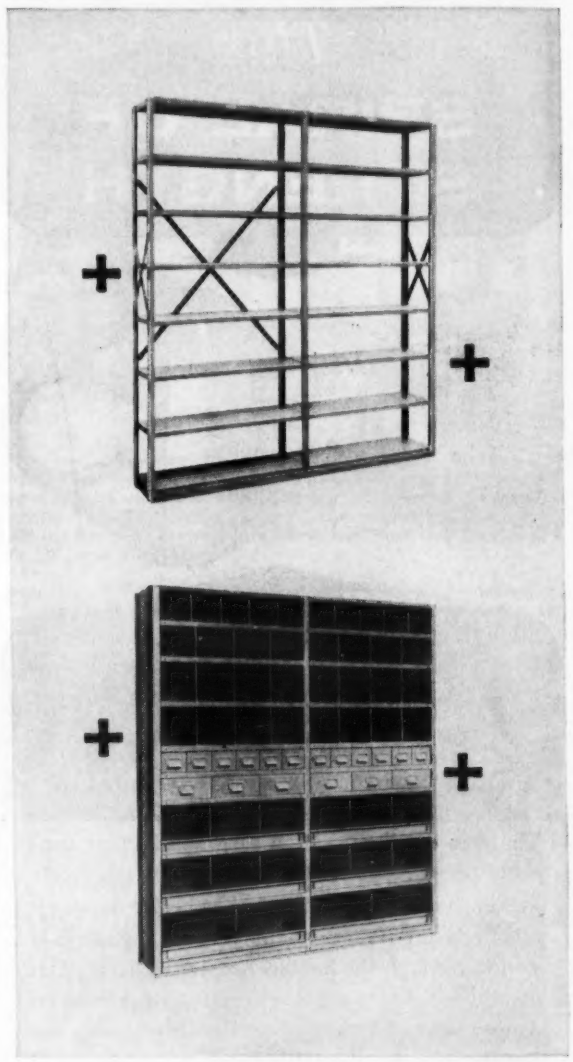
▲ For more details circle **NED-879 H1** on enclosed inquiry slip ▲

Controlling Industrial Plant Weeds

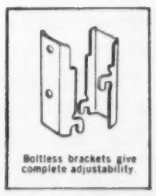
FREE E. I. du Pont de Nemours & Co., Industrial & Biochemicals Dept.—Offered as a comprehensive guide to effective and economical vegetation control in industrial areas, 16-page Bulletin A-18489 is useful in analyzing vegetation problems and selecting the right chemical or combination to obtain the results desired. Selection of the right chemical for a specific control problem may depend upon differences in plant species, rainfall, soil types, and other economic factors.

▲ For more details circle **NED-880 H1** on enclosed inquiry slip ▲

▲ For more details circle **NED-881 H1** on enclosed inquiry slip ▲



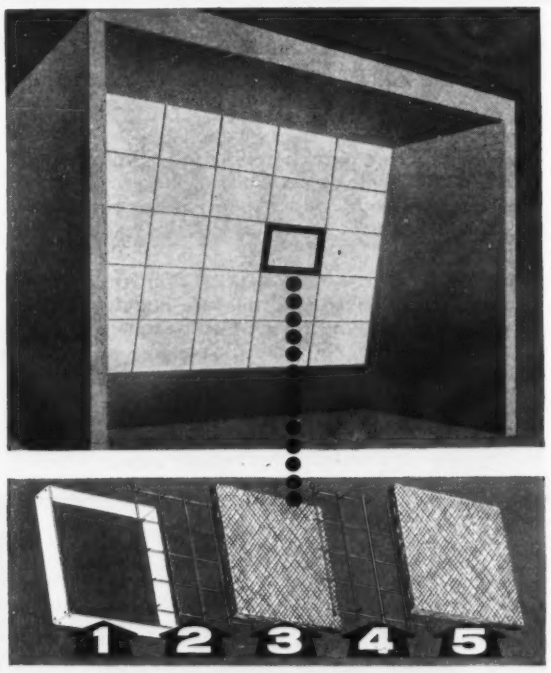
ADD UP THE PLUSSES AND YOU'LL GET THE ANSWER!



DeLuxe steel shelving by Royal features these significant extras: I-beam uprights for extra strength, double-thick steel end panels to take extra weight. Patented boltless construction allows 15-minute section assembly—without tools. Meet changing needs more easily with a wide range of shelf units, bins, doors, drawers and dividers. Simplicity of design. Flexibility in use. Easy adaptability to other makes. You can't beat the convenience! You can't beat the service! Call or write DeLuxe Metal Products Division, ROYAL METAL MANUFACTURING COMPANY, Dept. 25-H, One Park Avenue, New York 16, New York.

DELUXE

▲ For more details circle **NED-882 H1** on enclosed inquiry slip ▲



A Paint Arrestor module consists of a Holding Frame (1), two Snap-in Grids (2 and 4), two Paint Arrestors (3 and 5). Loaded Paint Arrestors are simply replaced as necessary. And, they're also ideal for air-borne ink, mist, dye, frit, etc.

CONTROL PAINT OVERSPRAY the inexpensive, effective way!

The advantages of R P Paint Arrestors, the inexpensive, disposable air filters are many. Overspray solids are trapped before they reach the exhaust stack... to reduce fire hazards, damage to adjacent property... disagreeable and time-consuming maintenance work. Installation? —easy and fast. Maintenance? —remove loaded Paint Arrestor and replace a new one. Adaptability? —ideal for any type, any size booth, new or existing.

RP PAINT ARRESTORS

UL Listed

RP Products of Research

RESEARCH PRODUCTS Corporation

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Got an O-Ring Size Problem?*

Our "I-L-M"* technique makes it possible to provide you immediately with rings of any diameter in .139" or .275" cross section. Don't worry about quality. Note these features:

- The elastomer cord from which these rings are made is completely free of flash.
- *Uniform cross section, assured by injex lineal molding.
- Joint of same elastomer as body, no cements.
- Strong joint has 70% tensile strength of body and 65% of elongation.
- Available in Buna N and Neoprene to cover a wide range of aniline point oils.

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1791 E. 10 Mile Rd.
Madison Hts., Mich.
PERIFLEX INC.,

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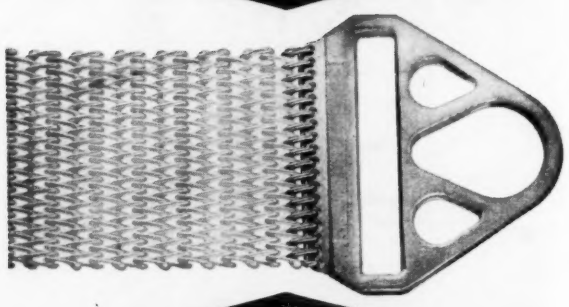
This SPIRAL OF STRENGTH*



Helps make the Gripper® Sling Safer, Stronger, More Useful

The free-floating stainless steel spiral that connects the Gripper Sling handle with the fabric makes the Gripper Sling 3 ways better than any other sling of its type. *Safer* because the spiral is wound through the handle, not welded to it. The handle hinges freely back and forth, with no danger of weld breaks where the fabric meets the handle. *Stronger* because this stainess steel spiral gives 30% more wear, 66% more tensile strength than carbon steel. *More Useful* because this new design increases sling fabric length to give more grip when sling is used in a choke hitch.

Pretested Gripper Slings are available in standard lengths and widths with capacities up to 100,000 lbs. Special sizes, alloys or PVC plastic or Neoprene covered slings available. Write for FREE CATALOG and name of your nearest Gripper Sling distributor.

*Pat. App. For

The Cambridge Wire Cloth Co.
DEPARTMENT E • CAMBRIDGE 8, MD.

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NEW LITERATURE and CATALOGS

Tool Steel Data for Designers & Engineers

The latest developments in the fast-changing field of tool steels and their application to tools and dies are described and interpreted in the third and completely revised edition of "Tool Steel Simplified." Written for men who design, make, and heat treat tools and dies, this 595-page manual covers all phases of the subject. Price is $2.50. Published by **Carpenter Steel Co.**, 101 W. Bern St., Reading, Pa.

▲ For more details circle **NED-885 H1** on enclosed inquiry slip ▲

Machining Laminated Plastics

FREE Synthane Corp.—Modern techniques for machining laminated plastics are described and explained in 8-page illustrated Bulletin S1060. Recommendations are given on tools to be used, speeds, feeds, cooling and lubrication, and other important subjects. Operations covered include circular and band sawing, turning and boring, threading, automatic screw machining, drilling, milling, cutting, and punching. Right and wrong procedures are shown.

▲ For more details circle **NED-886 H1** on enclosed inquiry slip ▲

Power Transmission Ideas

FREE Acme Chain Corp.—106-page Catalog 8 on roller chain and sprockets is written for engineers, designers, and others concerned with power transmission plans and ideas. Engineering section contains 35 methods of chain adjustment on movable and fixed sprocket center drives, plus complete data on Acme roller chains, sprockets, and standard and made to order conveyor attachments.

▲ For more details circle **NED-887 H1** on enclosed inquiry slip ▲

Double-Miter Saw

FREE LeTarte Co.—Features of the 10, 11, and 12-in. models of the double-miter saw which cuts true angles and assures accurate miters by means of two descending hollow-ground circular saw blades are shown in 6-page bulletin.

▲ For more details circle **NED-888 H1** on enclosed inquiry slip ▲

Tap Size, Screw Threads & Decimal Equivalents

FREE Ash & Co.—Large 19 x 28½-in. wall chart shows decimal equivalents, screw threads and tap sizes, and includes a July 1961 to July 1962 calendar. Printed on heavy stock, it has reinforcing metal edge for easy wall hanging.

▲ For more details circle **NED-889 H1** on enclosed inquiry slip ▲

Pipe Friction Manual

Copyrighted this year and based on the previous "Tentative Standards of the Hydraulic Institute—Pipe Friction," third edition of "Pipe Friction Manual" is an extension and rearrangement of data. Full-page charts show friction loss for the incompressible flow of viscous fluids for ½ to 12-in. pipe sizes. Three fold-in charts of friction factors with related data permit calculating the friction loss for any fluid (liquid or gas) in any size or shape of conduit. 90 pages. Price is $2. Published by the **Hydraulic Institute**, 122 E. 42nd St., New York 17, N. Y.

▲ For more details circle **NED-890 H1** on enclosed inquiry slip ▲

Electronics Components Handbook

Over 150 pages of data on electromechanical and electronic switching devices and components are contained in the 150-page "Components Handbook." It covers relay and switch terminology, unique switching and control circuits, and helpful reference, application, and technical data. Priced at $2, it is published by **North Electric Co.**, Electronetics Div., Galion, Ohio.

▲ For more details circle **NED-891 H1** on enclosed inquiry slip ▲

Adjustable V-Belting Chart

FREE Manheim Mfg. & Belting Co.—All steps in the installation of Veelos adjustable V-belt are shown on 17½ x 21¾-in. two-color wall chart. Included are comparative length tables for various standard endless V-belts. Directions for measuring, coupling, uncoupling, and installing Veelos belts are covered.

▲ For more details circle **NED-892 H1** on enclosed inquiry slip ▲

Where to Use Self-Sealing Couplings

FREE Aeroquip Corp.—20-page Bulletin 629 is entitled "Applications for Self-Sealing Couplings in Fluid Piping Systems." Drawings and diagrams, plus extensive engineering data, aid the engineer, designer, and others concerned with hydraulics in engineering systems.

▲ For more details circle **NED-893 H1** on enclosed inquiry slip ▲

MOVE CARTONS, BOXES, BALES or BAGS FAST, EASILY AT LOW COST!

WITH THE AMAZING
Ve-Be-Veyor

- LIGHT WEIGHT—EASY TO MOVE
- UP TO 30% INCLINE
- HIGH POWER
- PLUGS IN ANY 110-120 OUTLET
- FULL 12" RUFF-TOP BELT

ONLY $461.00 for 12 foot model shown. 16 foot and 20 foot models plus extra accessories are available.
Prices F.O.B. Morton Grove plus state taxes.

★ SEND FOR FREE BULLETIN

Get all the dope on this high speed, versatile, little "powerhouse" conveyor. Does 1001 jobs in plants of all kinds. ASK FOR YOUR LITERATURE TODAY.

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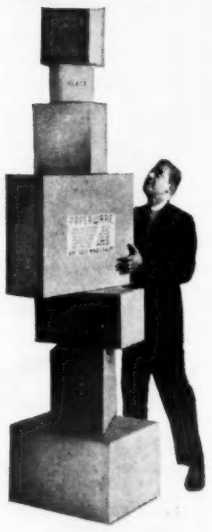
What?
Feed all these different sized cases, in random order, into one automatic case sealing installation?



Yes! The new Packomatic OMNIMATIC-ROTO-PRESS automatically seals and discharges corrugated shipping containers of widely varying dimensions, fed to it in random order, at speeds up to 20 cases per minute—automatically selecting and discharging cases according to height to as many as five different take-away conveyors. And the entire installation* occupies only 144.9 square feet.

*At General Electric's Trumbull Lamp Plant at Warren, Ohio—See *Modern Packaging's* in plant story, Nov. 1959 issue.

PACKOMATIC DIVISION
TEXTILE MACHINE WORKS
READING, PA.

▲ For more details circle NED-895 H1 on enclosed inquiry slip ▲

KENNETT TOTE BOXES
WORK HARDER • LAST LONGER

. . . ideal for any parts handling job in your plant, from small fragile components to larger raw-edge castings. Smooth, oil-resistant Kennett equipment has the strength to take it, the resilience to protect it.

FREE BOOKLET ON TOTE BOXES! For full information on this hard-working tote-box line, write Dept. A-8, Wilmington 99, Delaware.

NVF
KENNETT DIVISION
NATIONAL VULCANIZED FIBRE COMPANY

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Tubar MAKES DUMPING JOBS EASIER!

If your material handling calls for emptying
BOXES • BINS • CARTS • DRUMS • TUBS • BULK PACKS . . .

"Controlled Dumping" with Tubar units can cut your labor, time and costs drastically

Tubar Dumpers are designed to handle metal parts, chemicals, plastics, pulp, meats, food, produce, tobacco, scrap, and many other products.

Write for "Facts on Controlled Dumping" booklet and detailed reports on how major manufacturers have improved safety conditions and cut costs with Tubar Dumpers.

There's a TUBAR Man near you . . . write to:

UHRDEN, INC.
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MEASURE RPM

BY HAND
Centrifugal and Chronometric
HAND TACHOMETERS
All Ranges up to 100,000 RPM
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BY TOUCH
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Portable and Stationary Types
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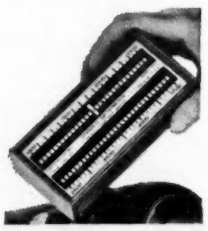
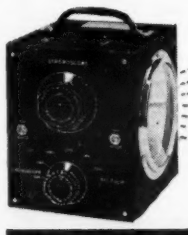




BY NEW HIGH INTENSITY STROBOSCOPE STOPS MOTION
"Industry's Seeing Eye"
Bulletin 780

HERMAN H. STICHT CO., INC. 27 PARK PLACE, NEW YORK 7, N.Y.

For more details circle NED-898 H1 on enclosed inquiry slip

SAVE ON FREIGHT ELEVATORS

Rotary® Oildraulic® Elevators

Dependable hydraulic power is applied directly to the load for maximum efficiency and dependability. No cables to replace, no overhead machinery penthouse or load-supporting sidewalls. Thus, lower installation costs, lower operating costs. Capacities to 100,000 lbs. or more. Write for catalog.

DOVER DOVER CORPORATION, *ELEVATOR DIVISION*
1027 Kentucky, Memphis 2, Tenn., Chatham, Ontario

For more details circle NED-899 H1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

HEAT & FLAMEPROOF COATING withstands 2000° F temperatures

Used before or during a fire to protect and isolate vulnerable equipment from the effects of fire, flame, and sudden temperature rise, Pyroshield 21 is furnished in powder form and mixed with water. It is applied by brush, spray, or dip. When exposed to flame or heat, the layer bubbles and swells to form a protective, thermally insulating barrier. Tests indicate that coated surfaces will withstand flame temperatures in excess of 2000° F for over 1 hr, while the protected surface remains under 350° F. Coating can be washed away with water. • **Columbia Technical Corp.**, 24-30 Brooklyn-Queens Expressway W., Woodside 77, N. Y.

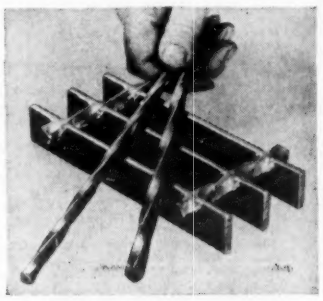
For more details circle NED-900 H1 on enclosed inquiry slip

CONCRETE SEALER-PRESERVATIVE penetrates deeply, prevents dusting

Applied with brush, mop, or spray, Co-Bond concrete preservative and sealer prevents major deterioration from salt or moisture. It imparts a safe nonskid surface with good appearance and minimum dusting. Material is usable on ramps, driveways, building walls, floors, and any place where concrete is subject to weather or traffic. It is available in rustic brown, gray, or relatively clear in 5-gal and larger containers. Samples are available. • **Commercial Chemical Co.**, Newport, Minn.

For more details circle NED-901 H1 on enclosed inquiry slip

SPIRALLED WIRE used in grills, railings, furniture



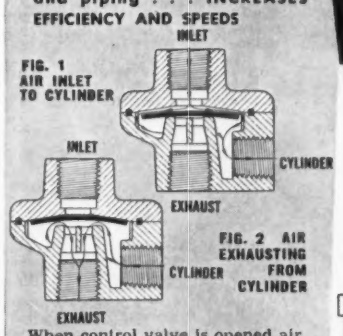
Production steps in fabricator's plants are minimized by using Ardox cold drawn spiralled wire. Developed for use in grills, railings, appliances, and furniture, it is available in coils or straight lengths from 2 to 20 ft, made from low carbon steel or to customer analysis. Diameters range from 0.072 to 0.750 in. Patterned design surface for ornamental use is also available. • **Pittsburgh Steel Co.**, Box 118, Pittsburgh 30, Pa.

For more details circle NED-902 H1 on enclosed inquiry slip

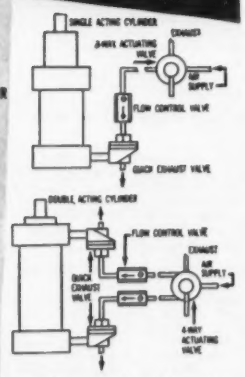
NEW! Pneu-trol® QUICK EXHAUST VALVE

Fast air dumping AT THE CYLINDER permits use of smaller valves and piping . . . INCREASES EFFICIENCY AND SPEEDS

Operating Pressures:
1 to 125 PSI
For 3/8" and 1/4" pipe sizes



When control valve is opened air pressure seals exhaust port and diaphragm is deflected permitting air to pass thru the cylinder port (Fig. 1). When inlet pressure is relieved (by actuating valve in control circuit) the buildup of cylinder return pressure closes inlet port (Fig. 2) snapping the diaphragm off the exhaust port allowing instantaneous evacuation of exhaust air. *Write for complete details, specifications and prices.*



TYPICAL APPLICATIONS of Quick Exhaust Valves in Single and Double Acting Cylinders. Because exhaust air is dumped at cylinder, smaller diameter piping and smaller selector valves can be used

AUTOMATION AUTO-PONENTS INC COMPONENTS
AUTO-PONENTS INC.
2929 Grant St. • Bellwood, Illinois

For more details circle NED-903 H1 on enclosed inquiry slip

Make Your Own CONVEYORS Using Our Specialized Belts

Very wide floor type conveyor belt.

Spiked belt to convey stringy, leafy, bulky material, etc., uphill.

SS-511 belt with stainless steel flat top for food, meat, etc. Used where corrosion is a problem.

Aluminum slat belt riveted to synthetic belting for carrying damp material.

Hardwood slats mounted on chain to carry heavy weights.

H-413 Steel or stainless long-wearing belt. Made in widths 4" to 90". Lengths to suit your needs.

Send for Conveyor Belt Catalog C-26 today

ROBERT A. MAIN & SONS, Inc.
Main & New Sts., Wyckoff, N. J. Phone: TWinbrook 1-2010

For more details circle NED-904 H1 on enclosed inquiry slip

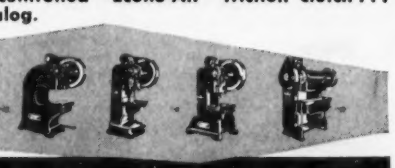
High Output with ROUSSELLE DOUBLE-CRANK PRESSES

No. 4B OBI with "Econo-Air" clutch.

STRAIGHT SIDE Die space up to 24 in.; bed space up to 6 ft. between uprights.

SPEED UP PRODUCTION with these versatile 40-ton presses. Large bed and ram areas make them ideally suited to handle wide rolls or sheets . . . do multiple punching, steel-rule die work and other high output operations. For rapid shockless starting and stopping, presses can be equipped with electrically controlled "Econo-Air" friction clutch . . . Ask for new catalog.

Choice of over 30 models and types in 5 to 60-ton sizes



SERVICE MACHINE CO.
Mfrs. of Rousselle Presses
2310 WEST 78TH ST. • CHICAGO 20, ILL.

Rousselle Presses are sold exclusively through Leading Machinery Dealers.

For more details circle NED-905 H1 on enclosed inquiry slip

IT COSTS LESS TO USE THE BEST!

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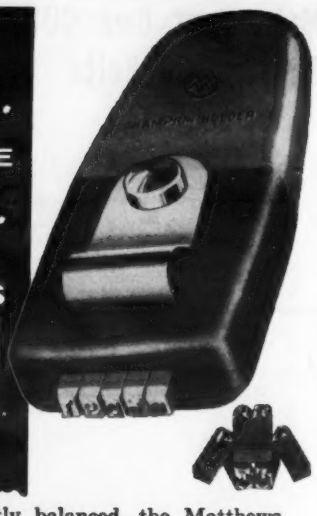

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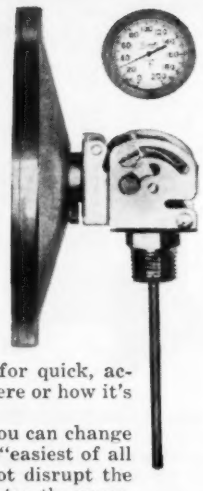

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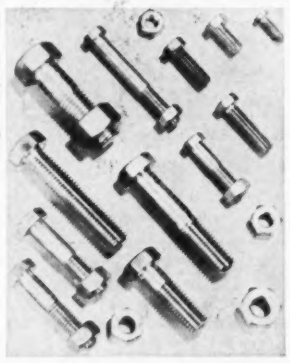

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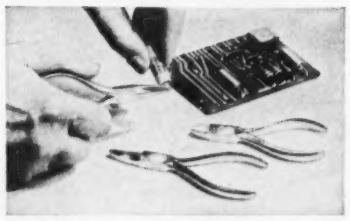
made in six different nose shapes



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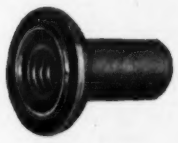
WF NUT
Thread Size #6-32 to 3/8-16

SF NUT
Thread Size 1/2-13



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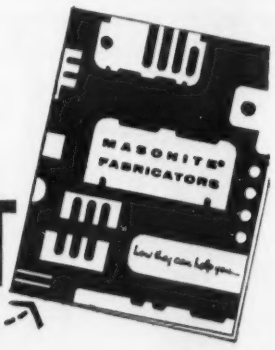

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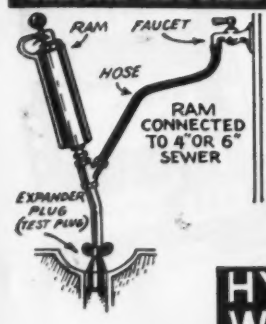

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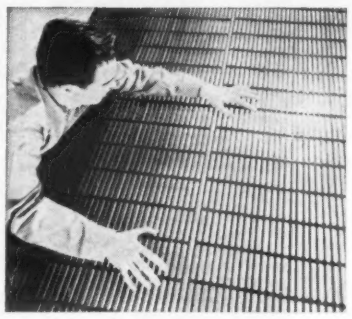
load capacity increased 60 per cent



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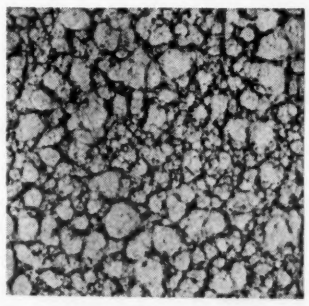

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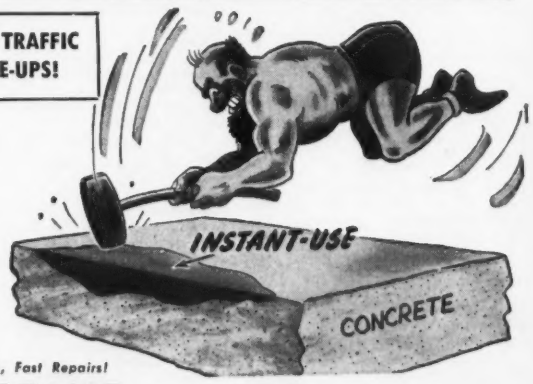

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